

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM S-3**  
REGISTRATION STATEMENT  
*UNDER*  
**THE SECURITIES ACT OF 1933**

**FibroBiologics, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**86-3329066**

(I.R.S. Employer  
Identification Number)

**455 E. Medical Center Blvd.  
Suite 300  
Houston, Texas 77598  
(281) 671-5150**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Pete O'Heeron  
Chief Executive Officer  
FibroBiologics, Inc.  
455 E. Medical Center Blvd.  
Suite 300  
Houston, Texas 77598  
(281) 671-5150**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

*Copies to:*

**Jeremy W. Cleveland  
Jones Day  
1755 Embarcadero Road  
Palo Alto, California 94303  
(650) 739-3939**

**Ruben A. Garcia  
General Counsel  
FibroBiologics, Inc.  
455 E. Medical Center Blvd.  
Suite 300  
Houston, Texas 77598  
(281) 671-5150**

Approximate date of commencement of proposed sale to the public: **From time to time after this registration statement becomes effective.**

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, please check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller reporting company   
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

**SUBJECT TO COMPLETION, DATED FEBRUARY 3, 2025**

**PRELIMINARY PROSPECTUS**

**\$50,000,000**



**FibroBiologics, Inc.**

**Common Stock  
Preferred Stock  
Depositary Shares  
Warrants  
Subscription Rights  
Contingent Value Rights  
Debt Securities  
Purchase Contracts  
Units**

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We may offer and sell from time to time our common stock, preferred stock, depositary shares, warrants, subscription rights, contingent value rights, debt securities and purchase contracts, as well as units that include any of these securities. We may sell any combination of these securities in one or more offerings with an aggregate initial offering price of \$50,000,000 or the equivalent amount in other currencies or currency units.

We will provide the specific terms of the securities to be offered in one or more supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in our securities. This prospectus may not be used to offer and sell our securities unless accompanied by a prospectus supplement describing the method and terms of the offering of those offered securities.

We may sell the securities directly or to or through underwriters or dealers, and also to other purchasers or through agents. The names of any underwriters or agents that are included in a sale of securities to you, and any applicable commissions or discounts, will be stated in an accompanying prospectus supplement.

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**Investing in any of our securities involves a high degree of risk. See the “Risk Factors” section beginning on page 3 of this prospectus for the risks and uncertainties you should consider before investing in our securities.**

Our common stock is listed on the Nasdaq Global Market under the symbol “FBLG.” On January 31, 2025, the closing price of our common stock was \$1.61 per share. None of the other securities that we may offer under this prospectus are currently publicly traded.

The aggregate market value of our outstanding common stock held by non-affiliates is \$75.6 million based on 36,408,396 shares of outstanding common stock, of which 30,367,274 shares are held by non-affiliates, and a per share price of \$2.49 which was the closing sale price of our common stock as quoted on the Nadsaq Global Market on December 6, 2024. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement, of which this prospectus forms a part, in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period if, and for so long as, our public float is below \$75 million at the date of measurement.

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**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

Prospectus Dated \_\_\_\_\_, 2025

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration or continuous offering process. Under this shelf process, we may from time to time sell any combination of the securities described in this prospectus in one or more offerings up to an aggregate initial offering price of \$50,000,000 or the equivalent amount in other currencies or currency units.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information under the heading “Where You Can Find Additional Information” and “Incorporation of Certain Documents By Reference.”

We have not authorized anyone to provide you with different information from the information contained or incorporated by reference in this prospectus and in any prospectus supplement or in any free writing prospectus that we may provide you. You should not assume that the information contained in this prospectus, any prospectus supplement, any document incorporated by reference or any free writing prospectus is accurate as of any date, other than the date mentioned on the cover page of these documents. We are not making offers to sell the securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

Unless otherwise indicated or the context otherwise requires, all references in this prospectus to “we,” “us,” “our,” the “Company,” “FibroBiologics” and similar terms refer to FibroBiologics, Inc.

## WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are subject to the informational reporting requirements of the Securities Exchange Act of 1934, or the Exchange Act. We file reports, proxy statements and other information with the SEC. Our SEC filings are available over the internet at the SEC’s website at <http://www.sec.gov>. We make available, free of charge, on our website at [www.fibrobiologics.com](http://www.fibrobiologics.com), our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports and statements as soon as reasonably practicable after they are filed with the SEC. The contents of our website are not part of this prospectus, and the reference to our website does not constitute incorporation by reference into this prospectus of the information contained on or through that site, other than documents we file with the SEC that are specifically incorporated by reference into this prospectus. Our website address is included in this prospectus as an inactive textual reference only.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus the information in documents we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in or omitted from this prospectus or any accompanying prospectus supplement, or in any other subsequently filed document, which also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We incorporate by reference the documents listed below and any future documents that we file with the SEC (excluding any portion of such documents that are furnished and not filed with the SEC) under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (1) after the date of the initial filing of the registration statement of which this prospectus forms a part prior to the effectiveness of the registration statement and (2) after the date of this prospectus until the offering of the securities is terminated:

- our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2023;
- those portions of our Definitive Proxy Statement on [Schedule 14A](#) that was filed on July 8, 2024 that address the disclosure requirements of Part III of Form 10-K;
- our Quarterly Reports on Form 10-Q for the quarterly periods ended [March 31, 2024](#), [June 30, 2024](#), and [September 30, 2024](#);
- our Current Reports on Form 8-K, filed with the SEC on [February 2, 2024](#), [February 6, 2024](#), [February 8, 2024](#), [February 14, 2024](#), [February 20, 2024](#), [April 26, 2024](#), [June 27, 2024](#), [August 27, 2024](#), [August 28, 2024](#), [September 24, 2024](#), [October 29, 2024](#), [December 20, 2024](#), [December 23, 2024](#), [December 31, 2024](#) and [January 24, 2025](#) (except, in each case, any information, including exhibits, furnished and not filed with the SEC); and
- the description of our common stock set forth in the registration statement on [Form 8-A](#) filed on January 24, 2024, as updated by [Exhibit 4.2](#) to our Annual Report on Form 10-K, filed on February 29, 2024, and all amendments and reports filed for the purpose of updating that description.

We will not, however, incorporate by reference in this prospectus any documents or portions thereof that are not deemed “filed” with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of our current reports on Form 8-K unless, and except to the extent, specified in such current reports.

We will provide you with a copy of any of these filings (other than an exhibit to these filings, unless the exhibit is specifically incorporated by reference into the filing requested) at no cost, if you submit a request to us by writing or telephoning us at the following address and telephone number:

FibroBiologics, Inc.  
455 E. Medical Center Blvd.  
Suite 300  
Houston, Texas 77598  
(281) 671-5150

## THE COMPANY

We are a clinical-stage biotechnology company focused on developing and commercializing fibroblast-based therapies for patients suffering from chronic diseases with significant unmet medical needs, including wound healing, multiple sclerosis (MS), degenerative disc disease, psoriasis and certain cancers, and potential human longevity applications including thymic involution reversal. At present, our novel manufacturing process entails collecting excess tissue from surgical procedures and using the allogeneic fibroblasts to grow a cell bank for use in our procedures. Our most advanced product candidates are CYWC628, CYMS101 and CybroCell™.

We were formed in April 2021 as a Texas limited liability company under the name FibroBiologics, LLC, and converted to a Delaware corporation in December 2021 under the name FibroBiologics, Inc. On April 12, 2023, we changed our name to FibroBiologics, Inc. Our principal executive offices are located at 455 E. Medical Center Blvd., Suite 300, Houston, Texas 77598. Our telephone number is (281) 671-5150 and our website address is [www.fibrobiologics.com](http://www.fibrobiologics.com). Information contained on or that can be accessed through our website is neither a part of nor incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus. Our website address is included in this prospectus as an inactive textual reference only.

## RISK FACTORS

An investment in our securities involves a high degree of risk. Before you decide to invest in our securities, you should carefully consider the risks set forth under the section titled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2023, and in our Quarterly Report on Form 10-Q for the three months ended September 30, 2024, both of which are incorporated by reference herein and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The occurrence of one or more of the events or circumstances described in such risk factors, alone or in combination with other events or circumstances, may have a material adverse effect on our business, reputation, revenue, financial condition, results of operations and future prospects, in which event you could lose all or part of your investment.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that can involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, future revenue, timing and likelihood of success, plans and objectives of management for future operations, future results of anticipated products and prospects, plans and objectives of management are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” or “would” or the negative of these terms or other similar expressions, although not all forward-looking statements contain these words. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- the timing, progress and results of preclinical studies and clinical trials for our current and future product candidates, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available and our research and development programs;
- the timing, scope or likelihood of regulatory submissions, filings, and approvals, including final regulatory approval of our product candidates;
- our ability to develop and advance product candidates into, and successfully complete, clinical trials;
- our expectations regarding the size of the patient populations for our product candidates, if approved for commercial use;
- the implementation of our business model and our strategic plans for our business, product candidates and technology;
- our commercialization, marketing and manufacturing capabilities and strategy;
- the pricing and reimbursement of our product candidates, if approved;
- the rate and degree of market acceptance and clinical utility of our product candidates, in particular, and cell therapy, in general;
- our ability to establish or maintain collaborations or strategic relationships or obtain additional funding;
- our competitive position;
- the scope of protection we and/or our licensors are able to establish and maintain for intellectual property rights covering our product candidates;
- developments and projections relating to our competitors and our industry;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- the period over which we estimate our existing cash and cash equivalents will be sufficient to fund our future operating expenses and capital expenditure requirements;
- the impact of laws and regulations; and
- the risks described in our Annual Report on Form 10-K for the year ended December 31, 2023, under Item 1A, “Risk Factors,” and our other filings with the SEC.

We have based these forward-looking statements largely on our current expectations and projections about our business, the industry in which we operate and financial trends that we believe may affect our business, financial condition, results of operations and prospects, and these forward-looking statements are not guarantees of future performance or development. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described in the section titled “Risk Factors” and elsewhere in this prospectus. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events or otherwise.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to unduly rely upon these statements.



#### USE OF PROCEEDS

Unless we inform you otherwise in the applicable prospectus supplement, we expect to use the net proceeds from the sale of securities for general corporate purposes. Pending any specific application, we may initially invest funds in U.S. government obligations.

## DESCRIPTION OF CAPITAL STOCK

### Authorized Capital Stock

Our amended and restated certificate of incorporation authorizes us to issue 110,000,000 shares of capital stock, which may consist of: (i) 100,000,000 shares of common stock, par value \$0.00001 per share, and (ii) 10,000,000 shares of preferred stock, par value \$0.00001 per share.

### Common Stock

This section describes the general terms and provisions of our common stock. For more detailed information, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed with the SEC. These documents are also incorporated by reference into the registration statement of which this prospectus forms a part.

Our amended and restated certificate of incorporation provides that:

- holders of common stock have voting rights for the election of our directors and all other matters requiring stockholder action, except with respect to amendments to our certificate of incorporation that alter or change the powers, preferences, rights or other terms of any outstanding preferred stock if the holders of such affected series of preferred stock are entitled to vote on such an amendment;
- holders of common stock are entitled to one vote per share on matters to be voted on by stockholders and are also entitled to receive such dividends, if any, as may be declared from time to time by our board of directors in its discretion out of funds legally available therefor;
- the payment of dividends, if any, on the common stock will be subject to the prior payment of dividends on any outstanding preferred stock;
- upon our liquidation or dissolution, the holders of common stock will be entitled to receive pro rata all assets remaining available for distribution to stockholders after payment of all liabilities and provision for the liquidation of any shares of preferred stock outstanding at that time; and
- our stockholders have no conversion, preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to the common stock.

### Preferred Stock

This section describes the general terms and provisions of our preferred stock. For more detailed information, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which have been filed with the SEC. These documents are also incorporated by reference into the registration statement of which this prospectus forms a part.

Our amended and restated certificate of incorporation provides that shares of preferred stock may be issued from time to time in one or more series. Our board of directors is authorized to fix the voting rights, if any, designations, powers, preferences, the relative, participating, optional or other special rights, if any, and any qualifications, limitations and restrictions thereof, applicable to the shares of each series. Our board of directors is able to, without stockholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of the common stock and could have anti-takeover effects. The ability of our board of directors to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of our control or the removal of our existing management.

### **Series C Preferred Stock**

There is currently one series of designated preferred stock, being the Series C Preferred Stock, 2,500 total shares of which are authorized and all of which 2,500 authorized shares of Series C Preferred Stock are issued, outstanding and held by Pete O'Heeron, our founder, Chief Executive Officer and Chairperson of our board of directors. The outstanding shares of Series C Preferred Stock are fully paid and nonassessable.

The Series C Preferred Stock rank senior to our common stock upon our liquidation, dissolution, winding up or otherwise.

The Series C Preferred Stock is entitled to vote on any matter to be voted on by our stockholders, in each case voting together with the holders of our common stock as a single class, and each share of Series C Preferred Stock is entitled to 13,000 votes. The Series C Preferred Stock is entitled to receive the same prior notice of any meeting of stockholders as provided to our common stockholders.

The Series C Preferred Stock is not entitled to any dividend, whether payable in cash, stock or property.

Subject to the superior rights of other, then outstanding, classes or series of preferred stock, in the event of any liquidation, dissolution or winding up of our company, the Series C Preferred Stock shall be entitled to receive, prior and in preference to any distribution in such liquidation, dissolution or winding up of any of our assets to the holders of our common stock, a liquidation preference of \$18.00 per share (subject to appropriate adjustment in the event of any stock split, combination or other similar recapitalization).

The Series C Preferred Stock may be converted at any time as follows:

- At the option of the holder, a share of Series C Preferred Stock may be converted into one share of our common stock; and
- Upon the election of the holders of a majority of the then outstanding shares of Series C Preferred Stock, all outstanding shares of Series C Preferred Stock may be converted into an equal number of shares of our common stock, on a one-for-one basis.

In addition, the Series C Preferred Stock is subject to a mandatory conversion upon any transfer of the Series C Preferred Stock. Each share of Series C Preferred Stock shall automatically convert, without the payment of additional consideration by or to the holder thereof, into one fully paid and non-assessable share of our common stock, upon any transfer of any share of Series C Preferred Stock, whether or not for value. Any shares of Series C Preferred Stock converted as described above must be retired and cancelled and may not be reissued as shares of such series.

For as long as the Series C Preferred Stock remain outstanding, the aggregate number of shares of Series C Preferred Stock then outstanding, shall be proportionately adjusted for any increase or decrease in the number of issued shares of our common stock resulting from a subdivision or combination of our common stock or other similar recapitalization, in each case effected without our receipt of consideration.

The Series C Preferred Stock is subject to an irrevocable proxy issued by Pete O'Heeron, the holder of all of the Series C Preferred Stock, in favor and for the benefit of, our board of directors, granting our board of directors the irrevocable proxy, for as long as the Series C Preferred Stock remains outstanding, to vote all of the Series C Preferred Stock on all matters on which the Series C Preferred Stock are entitled to vote, in any manner that our board of directors may determine in its sole and absolute discretion; provided, however, that such irrevocable proxy shall not, without the written consent of Pete O'Heeron, permit our board of directors to vote the Series C Preferred Stock with respect to any proposal to amend, delete or waive any rights of Pete O'Heeron with respect to the Series C Preferred Stock as set forth in our amended and restated certificate of incorporation. In light of the superior voting rights associated with the Series C Preferred Stock, the irrevocable proxy is intended to ensure that such superior voting rights are utilized in our best interest and to avoid or mitigate conflicts that may arise in the future for Pete O'Heeron as an individual stockholder employee.

## **Anti-Takeover Effects of our Certificate of Incorporation, Bylaws and Delaware Law**

Our amended and restated certificate of incorporation and amended and restated bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

### ***Classified Board***

Our amended and restated certificate of incorporation requires our board of directors to be divided into three classes serving staggered three-year terms, with one class elected each year. The classification of directors has the effect of making it more difficult for stockholders to change the composition of our board of directors.

### ***Stockholder Actions by Written Consent***

Our amended and restated certificate of incorporation requires that, any action required or permitted to be taken by our stockholders must be effected at a duly-called annual or special meeting of our stockholders and may not be effected by written consent in lieu of a meeting.

### ***Advance Notice Requirements***

Our amended and restated bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures specify that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken, and define what is considered timely. Our amended and restated bylaws specify the requirements as to form and content of all stockholder notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

### ***Director Removal and Vacancies***

Our amended and restated certificate of incorporation requires that, a member of our board of directors or our entire board may only be removed for cause, and then only by the affirmative vote of the holders of at least 66 2/3% in voting power of our stock entitled to vote on such removal. In addition, our amended and restated certificate of incorporation requires that, any newly created directorship that results from an increase in the number of directors or any vacancy on our board of directors, must be filled solely by the affirmative vote of a majority of the total number of directors then in office, even if less than a quorum, or by a sole remaining director and may not be filled by the stockholders.

### ***Supermajority Voting Requirements***

Our amended and restated certificate of incorporation requires the affirmative vote of the holders of at least 66 2/3% in voting power of our stock entitled to vote thereon to (i) amend, alter or repeal our bylaws and adopt new bylaws or (ii) to amend, alter, change or repeal, or adopt any provision inconsistent with, certain provisions of our certificate of incorporation, including the provisions relating to the requirement to have a classified board, the provisions relating to the removal of directors, the provision precluding stockholder action by written consent and the choice of forum provision in our amended and restated certificate of incorporation (as explained below).

### ***Undesignated Preferred Stock***

Our amended and restated certificate of incorporation provides for authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our amended and restated certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring or preventing a change in our control.

### ***Exclusive Forum***

Our amended and restated certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the (i) Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for (a) any derivative action or proceeding brought on our behalf, (b) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (c) any action arising pursuant to any provision of the DGCL, our certificate of incorporation or our bylaws or (d) any action asserting a claim governed by the internal affairs doctrine and (ii) to the fullest extent permitted by law, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause or causes of action arising under the Securities Act, including all causes of action asserted against any defendant to such complaint. The foregoing provision would not preclude stockholders that assert claims under the Exchange Act from bringing such claims in federal court, to the extent that the Exchange Act confers exclusive federal jurisdiction over such claims, subject to applicable law. Our choice of forum provision may impose additional litigation costs on stockholders in pursuing claims and may limit a stockholder's ability to bring a claim in a judicial forum that it believes to be favorable for disputes with us or any of our directors, officers or other employees, which may discourage lawsuits with respect to such claims.

### ***Limitation of Liability and Indemnification of Directors and Officers***

Our amended and restated certificate of incorporation provides that our directors and officers will be indemnified by us to the fullest extent authorized by Delaware law.

These provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions. We believe that these provisions and insurance are necessary to attract and retain talented and experienced directors and officers. In addition, we entered into separate indemnification agreements with each of our directors and executive officers.

### ***Section 203 of the DGCL***

As a Delaware corporation, we are subject to the provisions of Section 203 of the DGCL. This statute prevents certain Delaware corporations, under certain circumstances, from engaging in a "business combination" with an "interested stockholder." In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns 15% or more of the outstanding voting stock of the corporation.

A "business combination" includes a merger or sale of more than 10% of our assets. However, the above provisions of Section 203 of the DGCL do not apply if:

- the business combination takes place more than three years after the interested stockholder became an "interested stockholder;"
- our board of directors approves the transaction that made the stockholder an "interested stockholder" prior to the date of the transaction;
- after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of our voting stock outstanding, other than statutorily excluded shares of common stock; or
- on or subsequent to the date of the transaction, the business combination is approved by our board of directors and authorized at a meeting of our stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

### ***Listing***

Our common stock commenced trading on The Nasdaq Global Market under the symbol "FBLG" on January 31, 2024.

### ***Transfer Agent and Registrar***

The transfer agent and registrar for our common stock is VStock Transfer LLC. The transfer agent and registrar's address is 18 Lafayette Place, Woodmere, NY 11598.

## DESCRIPTION OF DEPOSITARY SHARES

We may offer depositary shares representing fractional shares of our preferred stock of any series. The following description sets forth certain general terms and provisions of the depositary shares that we may offer pursuant to this prospectus. The particular terms of the depositary shares, including the fraction of a share of preferred stock that such depositary share will represent, and the extent, if any, to which the general terms and provisions may apply to the depositary shares so offered, will be described in the applicable prospectus supplement.

The shares of preferred stock represented by depositary shares will be deposited under a depositary agreement between us and a bank or trust company that meets certain requirements and is selected by us, which we refer to as the “bank depositary.” Each owner of a depositary share will be entitled to all the rights and preferences of the shares of preferred stock represented by the depositary share. The depositary shares will be evidenced by depositary receipts issued pursuant to the depositary agreement. Depositary receipts will be distributed to those persons purchasing the fractional shares of preferred stock in accordance with the terms of the offering. The deposit agreement will also contain provisions relating to the manner in which any subscription or similar rights we offer to holders of the preferred stock will be made available to the holders of depositary shares.

The following description is a general summary of some common provisions of a depositary agreement and the related depositary receipts. The description below and in any prospectus supplement does not include all of the terms of the depositary agreement and the related depositary receipts. Copies of the form of depositary agreement and the depositary receipts relating to any particular issue of depositary shares will be filed with the SEC each time we issue depositary shares, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the depositary agreement and the related depositary receipts, see “Where You Can Find Additional Information.”

### **Dividends and Other Distributions**

If we pay a cash distribution or dividend on a series of preferred stock represented by depositary shares, the bank depositary will distribute these dividends to the record holders of these depositary shares. If the distributions are in property other than cash, the bank depositary will distribute the property to the record holders of the depositary shares. However, if the bank depositary determines that it is not feasible to make the distribution of property, the bank depositary may, with our approval, sell this property and distribute the net proceeds from this sale to the record holders of the depositary shares.

### **Redemption of Depositary Shares**

If we redeem a series of preferred stock represented by depositary shares, the bank depositary will redeem the depositary shares from the proceeds received by the bank depositary in connection with the redemption. The redemption price per depositary share will equal the applicable fraction of the redemption price per share of the preferred stock. If fewer than all the depositary shares are redeemed, the depositary shares to be redeemed will be selected by lot or pro rata as the bank depositary may determine.

### **Voting the Preferred Stock**

Upon receipt of notice of any meeting at which the holders of the preferred stock represented by depositary shares are entitled to vote, the bank depositary will mail the notice to the record holders of the depositary shares relating to the preferred stock. Each record holder of these depositary shares on the record date (which will be the same date as the record date for the preferred stock) may instruct the bank depositary as to how to vote the preferred stock represented by this holder’s depositary shares. The bank depositary will endeavor, insofar as practicable, to vote the amount of the preferred stock represented by such depositary shares in accordance with these instructions, and we will take all action which the bank depositary deems necessary in order to enable the bank depositary to do so. The bank depositary will abstain from voting shares of the preferred stock to the extent it does not receive specific instructions from the holders of depositary shares representing this preferred stock.

### **Amendment and Termination of the Depositary Agreement**

The form of depositary receipt evidencing the depositary shares and any provision of the depositary agreement may be amended by agreement between the bank depositary and us. However, any amendment that materially and adversely alters the rights of the holders of depositary shares will not be effective unless this amendment has been approved by the holders of at least a majority of the depositary shares then outstanding. The depositary agreement may be terminated by the bank depositary or us only if:

- all outstanding depositary shares have been redeemed; or
- there has been a final distribution in respect of the preferred stock in connection with any liquidation, dissolution or winding-up of the Company and this distribution has been distributed to the holders of depositary receipts.

### **Charges of Bank Depositary**

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will pay charges of the bank depositary in connection with the initial deposit of the preferred stock and any redemption of the preferred stock. Holders of depositary receipts will pay other transfer, tax and governmental charges and any other charges, including a fee for the withdrawal of shares of preferred stock upon surrender of depositary receipts, as are expressly provided in the depositary agreement to be for their accounts.

### **Withdrawal of Preferred Stock**

Except as may be provided otherwise in the applicable prospectus supplement, upon surrender of depositary receipts at the principal office of the bank depositary, subject to the terms of the depositary agreement, the owner of the depositary shares may demand delivery of the number of whole shares of preferred stock and all money and other property, if any, represented by those depositary shares. Fractional shares of preferred stock will not be issued. If the depositary receipts delivered by the holder evidence a number of depositary shares in excess of the number of depositary shares representing the number of whole shares of preferred stock to be withdrawn, the bank depositary will deliver to this holder at the same time a new depositary receipt evidencing the excess number of depositary shares. Holders of preferred stock thus withdrawn may not thereafter deposit those shares under the depositary agreement or receive depositary receipts evidencing depositary shares therefor.

### **Miscellaneous**

The bank depositary will forward to holders of depositary receipts all reports and communications from us that are delivered to the bank depositary and that we are required to furnish to the holders of preferred stock.

Neither the bank depositary nor we will be liable if we are prevented or delayed by law or any circumstance beyond our control in performing our obligations under the depositary agreement. The obligations of the bank depositary and us under the depositary agreement will be limited to performance in good faith of our duties thereunder, and we will not be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or shares of preferred stock unless satisfactory indemnity is furnished. We may rely upon written advice of counsel or accountants, or upon information provided by persons presenting shares of preferred stock for deposit, holders of depositary receipts or other persons believed to be competent and on documents believed to be genuine.

### **Resignation and Removal of Bank Depositary**

The bank depositary may resign at any time by delivering to us notice of its election to do so, and we may at any time remove the bank depositary. Any such resignation or removal will take effect upon the appointment of a successor bank depositary and the successor's acceptance of this appointment. The successor bank depositary must be appointed within 60 days after delivery of the notice of resignation or removal and must be a bank or trust company meeting the requirements of the depositary agreement.

## DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common stock, preferred stock, depository shares, contingent value rights or debt securities. The following description sets forth certain general terms and provisions of the warrants that we may offer pursuant to this prospectus. The particular terms of the warrants and the extent, if any, to which the general terms and provisions may apply to the warrants so offered will be described in the applicable prospectus supplement.

Warrants may be issued independently or together with other securities and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants and will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

A copy of the forms of the warrant agreement and the warrant certificate relating to any particular issue of warrants will be filed with the SEC each time we issue warrants, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the warrant agreement and the related warrant certificate, see “Where You Can Find Additional Information.”

### Debt Warrants

The prospectus supplement relating to a particular issue of warrants to issue debt securities will describe the terms of those warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of the warrants;
- the designation and terms of the debt securities purchasable upon exercise of the warrants;
- if applicable, the designation and terms of the debt securities that the warrants are issued with and the number of warrants issued with each debt security;
- if applicable, the date from and after which the warrants and any debt securities issued with them will be separately transferable;
- the principal amount of debt securities that may be purchased upon exercise of a warrant and the price at which the debt securities may be purchased upon exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- whether the warrants represented by the warrant certificates or debt securities that may be issued upon exercise of the warrants will be issued in registered or bearer form;
- information relating to book-entry procedures, if any;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- anti-dilution provisions of the warrants, if any;
- redemption or call provisions, if any, applicable to the warrants;
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants; and
- any other information we think is important about the warrants.



## **Stock and Depositary Share Warrants**

The prospectus supplement relating to a particular issue of warrants to issue common stock, preferred stock or depositary shares will describe the terms of the common stock warrants, preferred stock warrants and depositary share warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of the warrants;
- the designation and terms of the common stock, preferred stock or depositary shares purchasable upon exercise of the warrants;
- if applicable, the designation and terms of the securities that the warrants are issued with and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with them will be separately transferable;
- the number of shares of common stock, preferred stock or depositary shares that may be purchased upon exercise of a warrant and the price at which the shares may be purchased upon exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- anti-dilution provisions of the warrants, if any;
- redemption or call provisions, if any, applicable to the warrants;
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants; and
- any other information we think is important about the warrants.

## **Exercise of Warrants**

Each warrant will entitle the holder of the warrant to purchase at the exercise price set forth in the applicable prospectus supplement the number of shares of common stock, preferred stock or depositary shares or the principal amount of debt securities being offered. Holders may exercise warrants at any time up to the close of business on the expiration date set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants are void. Holders may exercise warrants as set forth in the prospectus supplement relating to the warrants being offered.

Until a holder exercises the warrants to purchase our common stock, preferred stock, depositary shares or debt securities, the holder will not have any rights as a holder of our common stock, preferred stock, depositary shares or debt securities, as the case may be, by virtue of ownership of warrants.

## DESCRIPTION OF SUBSCRIPTION RIGHTS

We may issue to our stockholders subscription rights to purchase our common stock, preferred stock, depositary shares, contingent value rights or debt securities. The following description sets forth certain general terms and provisions of the subscription rights that we may offer pursuant to this prospectus. The particular terms of the subscription rights and the extent, if any, to which the general terms and provisions may apply to the subscription rights so offered will be described in the applicable prospectus supplement.

Subscription rights may be issued independently or together with any other security offered by this prospectus and may or may not be transferable by the stockholder receiving the rights in the rights offering. In connection with any rights offering, we may enter into a standby underwriting agreement with one or more underwriters pursuant to which the underwriter will purchase any securities that remain unsubscribed for upon completion of the rights offering, or offer these securities to other parties who are not our stockholders. A copy of the form of subscription rights certificate will be filed with the SEC each time we issue subscription rights, and you should read that document for provisions that may be important to you. For more information on how you can obtain a copy of any subscription rights certificate, see “Where You Can Find Additional Information.”

The applicable prospectus supplement relating to any subscription rights will describe the terms of the offered subscription rights, including, where applicable, the following:

- the exercise price for the subscription rights;
- the number of subscription rights issued to each stockholder;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights will commence and the date on which the right will expire;
- the extent to which the subscription rights include an over-subscription privilege with respect to unsubscribed securities; and
- the material terms of any standby underwriting arrangement entered into by us in connection with the subscription rights offering.

## DESCRIPTION OF CONTINGENT VALUE RIGHTS

We may issue contingent value rights pursuant to an agreement to be entered into by and between the Company and a trustee, agent and/or the purchasers (or representative(s) thereof) of such contingent value rights, which we refer to as the "CVR Agreement." The contingent value rights will entitle the holder to a potential cash payment upon the satisfaction of one or more conditions set forth in the CVR Agreement. The following description sets forth certain general terms and provisions of the contingent value rights that we may offer pursuant to this prospectus. The particular terms of the contingent value rights and the extent, if any, to which the general terms and provisions may apply to the contingent value rights so offered will be described in the applicable prospectus supplement.

Contingent value rights may be issued independently or together with any other security offered by this prospectus. A copy of the form of contingent value rights certificate will be filed with the SEC each time we issue contingent value rights, and you should read that document for provisions that may be important to you. For more information on how you can obtain a copy of any contingent value rights certificate, see "Where You Can Find Additional Information."

The applicable prospectus supplement relating to any contingent value rights will describe the terms of the offered contingent value rights, including, where applicable, the following:

- the description of the payment condition(s);
- the term and maturity date of the contingent value rights;
- the formula by which the potential cash payment will be determined upon the satisfaction of the payment condition(s);
- events of default under the CVR Agreement;
- the extent to which the contingent value rights are transferable; and
- any other terms of the contingent value rights.

The foregoing is not intended to be an exclusive list of the terms that may be applicable to any offered contingent value rights.

## DESCRIPTION OF DEBT SECURITIES

The following description sets forth certain general terms and provisions of the debt securities that we may issue, which may be issued as convertible or exchangeable debt securities. We will set forth the particular terms of the debt securities we offer in a prospectus supplement and the extent, if any, to which the following general terms and provisions will apply to particular debt securities.

The debt securities will be issued under an indenture to be entered into between us and a trustee that we will specify in the applicable prospectus supplement. The indenture, and any supplemental indentures thereto, will be subject to, and governed by, the Trust Indenture Act of 1939, as amended. The following description of general terms and provisions relating to the debt securities and the indenture under which the debt securities will be issued is a summary only and therefore is not complete and is subject to, and qualified in its entirety by reference to, the terms and provisions of the indenture. The form of the indenture has been filed with the SEC as an exhibit to the registration statement of which this prospectus forms a part, and you should read the indenture for provisions that may be important to you. For more information on how you can obtain a copy of the form of the indenture, see “Where You Can Find Additional Information.”

Capitalized terms used in this section and not defined herein have the meanings specified in the indenture. When we refer to “we,” “our” and “us” in this section, we mean FibroBiologics, Inc. excluding, unless the context otherwise requires or as otherwise expressly stated, its subsidiaries.

### General

Unless otherwise specified in a prospectus supplement, the debt securities will be our direct, unsecured obligations and will rank equally with all of our existing and future senior unsecured indebtedness and senior in right of payment to all of our subordinated indebtedness.

The indenture does not limit the aggregate principal amount of debt securities that may be issued under it and provides that debt securities may be issued under it from time to time in one or more series. We may specify a maximum aggregate principal amount for the debt securities of any series.

Unless otherwise specified in the applicable prospectus supplement, the indenture does not afford the holders of the debt securities the right to require us to repurchase or redeem the debt securities in the event of a highly-leveraged transaction.

We are not obligated to issue all debt securities of one series at the same time and, unless otherwise provided in the applicable prospectus supplement, we may reopen a series, without the consent of the holders of the outstanding debt securities of that series, for the issuance of additional debt securities of that series. Additional debt securities of a particular series will have the same terms and conditions as outstanding debt securities of such series, except for the issue date and, in some cases, the public offering price and the first interest payment date, and will be consolidated with, and form a single series with, such outstanding debt securities; provided, however, that if such additional debt securities are not fungible with the outstanding debt securities of such series for U.S. federal income tax purposes, the additional debt securities will have a separate CUSIP number.

We will set forth in a prospectus supplement relating to any debt securities being offered the aggregate principal amount and the following terms of the debt securities, if applicable:

- the title of debt securities;
- the price or prices (expressed as a percentage of the principal amount) at which the debt securities will be issued;
- any limit on the aggregate principal amount of the series of debt securities;
- whether the debt securities will be senior debt securities or subordinated debt securities, and if they are subordinated debt securities, the terms of the subordination;

- the date or dates on which the principal on the series of debt securities is payable;
- the rate or rates (which may be fixed or variable) per annum or the method used to determine such rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the series of debt securities will bear interest, if any, the date or dates from which such interest, if any, will accrue, the date or dates on which such interest, if any, will commence and be payable and any regular record date for the interest payable on any interest payment date;
- the right, if any, to extend the interest periods and the duration of that extension;
- the place or places where the principal of, and premium and interest, if any, on, the debt securities will be payable;
- the terms and conditions upon which the debt securities may be redeemed;
- any obligation we may have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of the debt securities;
- the dates on which and the price or prices at which we will repurchase the debt securities at the option of the holders of the debt securities and other detailed terms and provisions of such repurchase obligations;
- the denominations in which the debt securities will be issued, if other than denominations of \$2,000 and integral multiples of \$1,000 in excess thereof;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- the designation of the currency, currencies or currency units in which payment of principal of, and premium and interest, if any, on, the debt securities will be made if other than U.S. dollars;
- any provisions relating to any security provided for the debt securities;
- any addition to or change in the events of default described in this prospectus or in the indenture and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to, or change in, the covenants described in this prospectus or in the indenture with respect to the debt securities;
- any other terms of the debt securities (which may supplement, modify or delete any provision of the indenture as it applies to such debt securities);
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the series of debt securities, if other than those, if any, appointed in the indenture; and
- any provisions relating to conversion of the debt securities.

The foregoing is not intended to be an exclusive list of the terms that may be applicable to any offered debt securities.

In addition, the indenture does not limit our ability to issue convertible, exchangeable or subordinated debt securities. Any conversion, exchange or subordination provisions of debt securities will be described in the relevant prospectus supplement. Such terms may include provisions for conversion or exchange, either mandatory, at the option of the holder or at our option, in which case the number of shares of common stock or other securities to be received by the holders of debt securities would be calculated as of a time and in the manner stated in the prospectus supplement.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the U.S. federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of, and any premium and interest on, any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

### **Exchange and Transfer**

Debt securities may be transferred or exchanged at the office of the registrar or co-registrar designated by us.

We will not impose a service charge for any transfer or exchange, but we may require holders to pay any tax or other governmental charges associated with any transfer or exchange.

In the event of any redemption of debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt security of that series during a period beginning at the opening of 15 business days before the day of sending of a notice of redemption and ending at the close of business on the day such notice is sent; or
- register the transfer of or exchange any debt security of that series selected, called or being called for redemption, in whole or in part, except the unredeemed portion of any series being redeemed in part.

We may initially appoint the trustee as the registrar. Any transfer agent, in addition to the registrar initially designated by us, will be named in the prospectus supplement. We may designate additional transfer agents or change transfer agents or change the office of the transfer agent. However, we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

### **Global Securities**

The debt securities of any series may be represented, in whole or in part, by one or more global securities. Each global security will:

- be registered in the name of a depository that we will identify in a prospectus supplement;
- be deposited with the trustee as custodian for the depository or its nominee; and
- bear any required legends.

No global security may be exchanged in whole or in part for debt securities registered in the name of any person other than the depository or any nominee unless:

- the depository has notified us that it is unwilling or unable to continue as depository or has ceased to be qualified to act as depository, and in either case we fail to appoint a successor depository registered as a clearing agency under the Exchange Act within 90 days of such event;
- we execute and deliver to the trustee an officer's certificate to the effect that such global securities shall be so exchangeable; or
- an event of default with respect to the debt securities represented by such global securities shall have occurred and be continuing.

As long as the depository, or its nominee, is the registered owner of a global security, the depository or nominee will be considered the sole owner and holder of the debt securities represented by the global security for all purposes under the indenture. Except in the above limited circumstances, owners of beneficial interests in a global security:

- will not be entitled to have the debt securities registered in their names;
- will not be entitled to physical delivery of certificated debt securities; and
- will not be considered to be holders of those debt securities under the indenture.

Payments on a global security will be made to the depository or its nominee as the holder of the global security. Some jurisdictions have laws that require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Institutions that have accounts with the depository or its nominee are referred to as “participants.” Ownership of beneficial interests in a global security will be limited to participants and to persons that may hold beneficial interests through participants. The depository will credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants. Each person owning a beneficial interest in a global security must rely on the procedures of the depository (and, if such person is not a participant, on procedures of the participant through which such person owns its interest) to exercise any rights of a holder under the indenture.

Ownership of beneficial interests in a global security will be shown on and effected through records maintained by the depository, with respect to participants’ interests, or by any participant, with respect to interests of persons held by participants on their behalf. Payments, transfers and exchanges relating to beneficial interests in a global security will be subject to policies and procedures of the depository. The depository’s policies and procedures may change from time to time. Neither we nor the trustee will have any responsibility or liability for the depository’s acts or omissions or any participant’s records with respect to beneficial interests in a global security.

#### **Payment and Paying Agent**

The provisions of this subsection will apply to the debt securities unless otherwise indicated in the prospectus supplement. Payment of interest on a debt security on any interest payment date will be made to the person in whose name the debt security is registered at the close of business on the regular record date. Payment on debt securities of a particular series will be payable at the office of a paying agent or paying agents designated by us. However, at our option, we may pay interest by mailing a check to the record holder.

We may also name any other paying agents in the prospectus supplement. We may designate additional paying agents, change paying agents or change the office of any paying agent. However, we will be required to maintain a paying agent in each place of payment for the debt securities of a particular series.

Subject to any applicable abandoned property law, all monies paid by us to a paying agent for payment on any debt security that remain unclaimed at the end of two years after such payment was due will be repaid to us. Thereafter, the holder may look only to us for such payment.

#### **Consolidation, Merger and Sale of Assets**

Except as otherwise set forth in the applicable prospectus supplement, we may not merge or consolidate with or into any other person, in a transaction in which we are not the surviving corporation, or sell, convey, transfer, lease or otherwise dispose of all or substantially all of the properties and assets of us and our subsidiaries, taken as a whole, to any person, unless:

- the successor or transferee is a U.S. corporation, limited liability company, partnership, trust or other entity;
- the successor or transferee assumes our obligations on the debt securities and under the indenture pursuant to a supplemental indenture in form reasonably satisfactory to the trustee;

- immediately after giving effect to the transaction and treating our obligations in connection with or as a result of such transaction as having been incurred as of the time of such transaction, no default or event of default under the indenture shall have occurred and be continuing; and
- an officer's certificate and an opinion of counsel have been delivered to the trustee in connection with the foregoing.

In the event of the above transaction, if there is a successor or transferee, then the successor or transferee will expressly assume all of our obligations under the indenture and automatically be substituted for us in the indenture and as issuer of the debt securities and may exercise every right and power of ours under the indenture with the same effect as if such successor or transferee had been named in our place in the indenture; provided, however, that the predecessor company will not be relieved of the obligation to pay principal and interest on the debt securities except in the case of a sale of all of the assets of us and our subsidiaries.

#### **Events of Default**

Event of default means, with respect to any series of debt securities, any of the following:

- default in the payment of any interest on any debt security of that series when it becomes due and payable, and continuance of that default for a period of 30 days;
- default in the payment of principal of, or premium on, any debt security of that series when due and payable;
- failure on our part to comply with the covenant described under “—Consolidation, Merger and Sale of Assets”;
- default in the performance or breach of any other covenant or warranty by us in the indenture or any supplemental indenture with respect to such series (other than a covenant or warranty that has been included in the indenture or supplemental indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after (1) we receive written notice from the trustee or (2) we and the trustee receive written notice from the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain events of bankruptcy, insolvency or reorganization of our company or our significant subsidiaries; and
- any other event of default provided with respect to debt securities of that series that is described in the applicable prospectus supplement.

We will promptly deliver to the trustee written notice of any event which with the giving of notice and the lapse of time would become a covenant event of default, or any other event of default provided with respect to debt securities of that series that is described in the applicable prospectus supplement, along with a description of the status and what action we are taking or propose to take with respect to such event of default.

No event of default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an event of default with respect to any other series of debt securities. The occurrence of an event of default may constitute an event of default under our bank credit agreements in existence from time to time. In addition, the occurrence of certain events of default or an acceleration under the indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

If an event of default (other than an event of default resulting from certain events of bankruptcy, insolvency or reorganization of our company) with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of, and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an event of default resulting from certain events of bankruptcy, insolvency or reorganization of our company, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, the holders of a majority in aggregate principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if the rescission and annulment would not conflict with any judgment or decree already rendered and if all events of default with respect to that series, other than the non-payment of principal and interest, if any, with respect to debt securities of that series that has become due and payable solely because of the acceleration, have been cured or waived and all sums paid or advanced by the trustee and the reasonable compensation expenses and disbursements of the trustee and its agents and counsel have been paid as provided in the indenture.



The indenture provides that the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any holder of outstanding debt securities, unless the trustee receives security or indemnity satisfactory to it against any loss, liability or expense. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series.

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing event of default with respect to debt securities of that series; and
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and offered security or indemnity satisfactory to the trustee, to institute the proceeding as trustee, and the trustee has not received from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days.

Notwithstanding the foregoing, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, and premium and any interest on, that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of such payment.

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any default or event of default (except in payment on any debt securities of that series) with respect to debt securities of that series if it in good faith determines that withholding notice is in the interest of the holders of those debt securities.

#### **Modification and Waiver**

We may amend or modify the indenture without the consent of any holder of debt securities of the series affected by the modifications or amendments in order to:

- cure any ambiguity, defect or inconsistency;
- conform the text of the indenture, including any supplemental indenture, or the debt securities to any corresponding provision of this “Description of Debt Securities” or description of the debt securities found in the prospectus supplement as evidenced by an officer’s certificate;
- provide for the issuance of additional debt securities;
- provide for the assumption of our obligations in the case of a merger or consolidation and our discharge upon such assumption provided that the provision under “Merger, Consolidation, or Sale of Assets” of the indenture is complied with;

- add covenants or make any change that would provide any additional rights or benefits to the holders of the debt securities;
- add guarantees with respect to the debt securities;
- provide for uncertificated debt securities in addition to or in place of certificated debt securities;
- secure the debt securities;
- add or appoint a successor or separate trustee;
- make any change that does not adversely affect the rights of any holder of debt securities in any material respect, as evidenced by an officer's certificate; or
- obtain or maintain the qualification of the indenture under the Trust Indenture Act of 1939, as amended.

Other amendments and modifications of the indenture or the debt securities issued may be made with the consent of the holders of at least a majority of the aggregate principal amount of the outstanding debt securities of the affected series, and our compliance with any provision of the indenture with respect to the debt securities may be waived by written notice to the trustee by the holders of a majority of the aggregate principal amount of the outstanding debt securities of the affected series. However, no modification or amendment may, without the consent of the holder of each outstanding debt security of the affected series:

- reduce the principal amount or any premium or change the stated maturity of any debt security or alter or waive any of the provisions with respect to the redemption or repurchase of the debt securities;
- change the place of payment or currency in which principal, any premium or interest is paid;
- impair the right to institute suit for the enforcement of any payment on the debt securities;
- waive a payment default with respect to the debt securities;
- reduce the interest rate or extend the time for payment of interest on the debt securities;
- make any change to the amendment and modification provisions in the indenture; or
- reduce the percentage in principal amount outstanding of debt securities, the consent of the holders of which is required for any of the foregoing modifications or otherwise necessary to modify, supplement or amend the indenture or to waive any past default.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of an affected series may, on behalf of the holders of all debt securities of such series, waive our compliance with provisions of the indenture. Prior to the acceleration of the maturity of the debt securities of any series pursuant to the terms of the indenture, the holders of a majority in aggregate principal amount of the outstanding debt securities of such series may, on behalf of the holders of all the debt securities of such series, waive any past default under the indenture with respect to such debt securities and its consequences, except (i) a default with respect to such series in the payment of the principal of, or premium or any interest on, the debt securities of such series or (ii) a default or event of default in respect of a covenant or provision that cannot be modified or amended without the consent of all of the holders of the outstanding debt securities of the affected series.

#### **Defeasance of Debt Securities and Certain Covenants in Certain Circumstances**

*Legal Defeasance.* The indenture provides that, in certain circumstances, we may be discharged from any and all obligations in respect of the debt securities of any series (except for certain obligations to register the transfer or exchange of debt securities, to replace stolen, lost or mutilated debt securities, and to maintain paying agencies and certain provisions relating to the treatment of funds held by paying agents). We will be so discharged upon the deposit with the trustee, in trust, of money and/or U.S. government obligations that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the written opinion of a nationally recognized firm of independent public accountants, a nationally recognized investment bank or a nationally recognized appraisal firm to pay and discharge each installment of principal, premium and interest in accordance with the terms of the indenture and the debt securities of that series.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable U.S. federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the beneficial owners of the debt securities of the applicable series will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to U.S. federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred.

*Defeasance of Certain Covenants.* The indenture provides that, upon compliance with certain conditions, we may be released from our obligation to comply with certain covenants set forth in the indenture and any supplemental indenture, and any failure to comply with those covenants will not constitute a default or an event of default with respect to the debt securities of the applicable series, or covenant defeasance. If we exercise our covenant defeasance option with respect to a series of debt securities, payment of such debt securities may not be accelerated because of an event of default related to certain events of bankruptcy, insolvency or reorganization of our significant subsidiaries.

The conditions include:

- depositing with the trustee money and/or U.S. government obligations that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the written opinion of a nationally recognized firm of independent public accountants, a nationally recognized investment bank or a nationally recognized appraisal firm to pay and discharge each installment of principal of, premium and interest in accordance with the terms of the indenture and the debt securities of the applicable series; and
- delivering to the trustee an opinion of counsel to the effect that the beneficial owners of the debt securities of the applicable series will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to U.S. federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred.

#### **Governing Law**

The indenture and the debt securities will be governed by, and construed in accordance with, the internal laws of the State of New York.

## DESCRIPTION OF PURCHASE CONTRACTS

We may issue purchase contracts, including contracts obligating holders to purchase from us, and obligating us to sell to the holders, a specified number of shares of common stock or other securities at a future date or dates. The price per security of the securities and the number of securities may be fixed at the time the purchase contracts are issued or may be determined by reference to a specific formula set forth in the purchase contracts. The purchase contracts also may require us to make periodic payments to the holders of the purchase contracts, or vice versa, and those payments may be unsecured or refunded on some basis. The purchase contracts may require holders to secure their obligations thereunder in a specified manner and may provide for the prepayment of all or part of the consideration payable by holders in connection with the purchase of the underlying security or other property pursuant to the purchase contracts.

The securities related to the purchase contracts may be pledged to a collateral agent for our benefit pursuant to a pledge agreement to secure the obligations of holders of purchase contracts to purchase the underlying security or property under the related purchase contracts. The rights of holders of purchase contracts to the related pledged securities will be subject to our security interest therein created by the pledge agreement. No holder of purchase contracts will be permitted to withdraw the pledged securities related to such purchase contracts from the pledge arrangement.

The prospectus supplement relating to any particular issuance of purchase contracts will describe the terms of the purchase contracts. The description in the prospectus supplement will not necessarily be complete, and reference will be made to the purchase contracts, and, if applicable, collateral or depositary arrangements, relating to the purchase contracts, which will be filed with the SEC each time we issue purchase contracts. U.S. federal income tax considerations applicable to the purchase contracts will also be discussed in the prospectus supplement.

## DESCRIPTION OF UNITS

We may issue units comprising one or more securities described in this prospectus in any combination. The following description sets forth certain general terms and provisions of the units that we may offer pursuant to this prospectus. The particular terms of the units and the extent, if any, to which the general terms and provisions may apply to the units so offered will be described in the applicable prospectus supplement.

Each unit will be issued so that the holder of the unit also is the holder of each security included in the unit. Thus, the unit will have the rights and obligations of a holder of each included security. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date. A copy of the forms of the unit agreement and the unit certificate relating to any particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you. For more information on how you can obtain copies of the forms of the unit agreement and the related unit certificate, see “Where You Can Find Additional Information.”

The prospectus supplement relating to any particular issuance of units will describe the terms of those units, including, to the extent applicable, the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

## PLAN OF DISTRIBUTION

We may sell the offered securities in and outside the United States:

- through underwriters or dealers;
- directly to purchasers;
- in a rights offering;
- in “at the market” offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market on an exchange or otherwise;
- through agents; or
- through a combination of any of these methods.

The prospectus supplement will include the following information:

- the terms of the offering;
- the names of any underwriters or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price or initial public offering price of the securities;
- the net proceeds from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions and other items constituting underwriters’ compensation;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any commissions paid to agents.

### **Sale through Underwriters or Dealers**

If underwriters are used in the sale, the underwriters will acquire the securities for their own account. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless we inform you otherwise in the prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any initial offering price to the public and any discounts or concessions allowed or reallocated or paid to dealers.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting agreement, we may retain a dealer-manager to manage a subscription rights offering for us.

During and after an offering through underwriters, the underwriters may purchase and sell the securities in the open market. These transactions may include overallocation and stabilizing transactions and purchases to cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered securities sold for their account may be reclaimed by the syndicate if the offered securities are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the offered securities, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

Some or all of the securities that we offer through this prospectus may be new issues of securities with no established trading market. Any underwriters to whom we sell our securities for public offering and sale may make a market in those securities, but they will not be obligated to do so and they may discontinue any market making at any time without notice. Accordingly, we cannot assure you of the liquidity of, or continued trading markets for, any securities that we offer.

If dealers are used in the sale of securities, we will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. We will include in the prospectus supplement the names of the dealers and the terms of the transaction.

#### **Direct Sales and Sales through Agents**

We may sell the securities directly. In this case, no underwriters or agents would be involved. We may also sell the securities through agents designated from time to time at fixed prices or at varying prices determined at the time of sale. In the prospectus supplement, we will name any agent involved in the offer or sale of the offered securities, and we will describe any commissions payable to the agent. Unless we inform you otherwise in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. We will describe the terms of any sales of these securities in the prospectus supplement.

#### **Remarketing Arrangements**

Offered securities may also be offered and sold, if so indicated in the applicable prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreements, if any, with us and its compensation will be described in the applicable prospectus supplement.

#### **Delayed Delivery Contracts**

If we so indicate in the prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities from us at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The prospectus supplement will describe the commission payable for solicitation of those contracts.

#### **General Information**

We may have agreements with the agents, dealers, underwriters and remarketing firms to indemnify them against certain civil liabilities, including liabilities under the Securities Act, or to contribute with respect to payments that the agents, dealers, underwriters or remarketing firms may be required to make. Agents, dealers, underwriters and remarketing firms may be customers of, engage in transactions with or perform services for us in the ordinary course of their businesses.

## LEGAL MATTERS

Jones Day will pass upon the validity of the securities being offered hereby.

## EXPERTS

The financial statements of FibroBiologics, Inc. as of and for the years ended December 31, 2023 and 2022, have been audited by Withum Smith+Brown, PC, an independent registered public accounting firm, as stated in their report incorporated by reference herein. Such audited financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing. Such financial statements are, and audited financial statements to be included in subsequently filed documents will be, incorporated herein in reliance upon the report of Withum Smith+Brown, PC pertaining to such financial statements (to the extent covered by consents filed with the Securities and Exchange Commission) given on the authority of such firm as experts in accounting and auditing.



**PART II**

**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution**

The following are the estimated expenses of the issuance and distribution of the securities being registered, all of which are payable by us. All of the items below, except for the registration fee, are estimates.

SEC registration fee	\$	7,655.00	*
Trustee's fees and expenses			*
Transfer agent and registrar fees			*
Printing expenses			*
Accountant's fees and expenses			*
Legal fees and expenses			*
Miscellaneous			*
<b>Total</b>			*

\*Estimated expenses are presently not known and cannot be estimated.

**Item 15. Indemnification of Directors and Officers**

We are incorporated under the laws of the State of Delaware. Section 145 of the DGCL provides that a Delaware corporation may indemnify any person who was or is, or is threatened to be made, a party to any threatened, pending, or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful.

Section 145 of the DGCL also provides that a Delaware corporation may indemnify any person who was or is, or is threatened to be made, a party to any threatened, pending, or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification of any claim, issue or matter is permitted without judicial approval if such person is adjudged to be liable to the corporation.

Under the DGCL, where a present or former officer or director is successful on the merits or otherwise in the defense of any action referred to above, or in defense of any claim, issue or matter therein, the corporation must indemnify such present or former officer or director against the expenses (including attorney's fees) which such present or former officer or director actually and reasonably incurred in connection with such action (or claim, issue or matter therein).

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director or officer of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director or officer, except for liability for any:

- breach of a director's or officer's duty of loyalty to the corporation or its stockholders;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- in the case of a director, unlawful payment of dividends or unlawful stock purchase or redemption;
- transaction from which the director or officer derived an improper personal benefit; or
- in the case of an officer, any action by or in the right of the corporation.

Our amended and restated certificate of incorporation contains a provision that precludes any director or officer of ours from being personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as a director or officer, except for the aforementioned liabilities which we are not permitted to eliminate or limit under Section 102(b)(7) of the DGCL.

In addition, our amended and restated certificate of incorporation requires us to indemnify, and advance expenses to, to the fullest extent permitted by law, any person who was or is, or is threatened to be made, a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative by reason of the fact that the person is or was our director or officer, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise.

Our amended and restated bylaws authorize us to purchase and maintain insurance on behalf of any person who is or was our director or officer, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, enterprise or nonprofit entity against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not we would have the power to indemnify such person against such liability under the provisions of the DGCL.

We maintain an insurance policy covering our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act. In addition, we entered into separate indemnification agreements with each of our directors and executive officers.

#### **Item 16. Exhibits**

The following documents are exhibits to the registration statement:

Exhibit Number	Exhibit Description	Incorporation by Reference		
		Form	Exhibit	Filing Date
1.1*	Form of Underwriting Agreement.			
4.1	<a href="#">Amended and Restated Certificate of Incorporation of the Registrant.</a>	8-K	3.1	August 28, 2024
4.2	<a href="#">Amended and Restated Bylaws of the Registrant.</a>	8-K	3.1	June 27, 2024
4.5	<a href="#">Form of Debt Securities Indenture.</a>			
4.6*	Form of Debt Securities.			
4.7*	Preferred Stock Certificate of Amendment.			
4.8*	Form of Warrant Agreement.			
4.9*	Form of Warrant Certificate.			
4.10*	Form of Depositary Agreement.			
4.11*	Form of Depositary Receipt.			
4.12*	Form of Subscription Rights Certificate.			
4.13*	Form of Contingent Value Rights Certificate			
4.14*	Form of Contingent Value Rights Agreement			
4.15*	Form of Purchase Contract.			
4.16*	Form of Unit Agreement.			
4.17*	Form of Unit Certificate.			
5.1	<a href="#">Opinion of Jones Day.</a>			
23.1	<a href="#">Consent of Jones Day (included in Exhibit 5.1).</a>			
23.2	<a href="#">Consent of WithumSmith+Brown PC.</a>			
24.1	<a href="#">Power of Attorney (included on the signature page hereto).</a>			
107	<a href="#">Filing Fee Table.</a>			

\*To be filed either by amendment or as an exhibit to a report filed under the Exchange Act, and incorporated herein by reference.

**Item 17. Undertakings**

The undersigned registrant hereby undertakes:

1. To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Filing Fee Tables" filed as an exhibit to the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*provided, however*, that the undertakings set forth in paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this registration statement.

2. That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

3. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

4. That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is a part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

5. That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under section 305(b)(2) of the Trust Indenture Act.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on February 3, 2025.

### FibroBiologics, Inc.

By: /s/ Pete O'Heeron  
Pete O'Heeron  
Chief Executive Officer

## POWER OF ATTORNEY

We, the undersigned officers and directors of FibroBiologics, Inc., hereby severally constitute and appoint Pete O'Heeron and Ruben A. Garcia, and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for us and in our name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any other registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as full to all intents and purposes as we might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof..

Pursuant to the requirements of the Securities Act of 1933, this registration statement on Form S-3 has been signed below by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Pete O'Heeron</u> Pete O'Heeron	Chairperson and Chief Executive Officer (Principal Executive Officer)	February 3, 2025
<u>/s/ Robert E. Hoffman</u> Robert E. Hoffman	Interim Chief Financial Officer and Director (Principal Financial Officer and Principal Accounting Officer)	February 3, 2025
<u>/s/ Victoria Niklas, M.D.</u> Victoria Niklas, M.D.	Director	February 3, 2025
<u>/s/ Richard Cilento</u> Richard Cilento	Director	February 3, 2025
<u>/s/ Stacy Coen</u> Stacy Coen	Director	February 3, 2025
<u>/s/ Matthew Link</u> Matthew Link	Director	February 3, 2025

**FIBROBIOLOGICS, INC.**

**INDENTURE**

**Dated as of [●]**

**[●],**

**Trustee**

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**CROSS-REFERENCE TABLE\***

<i>Trust Indenture Act Section</i>	<i>Indenture Section</i>
310(a)(1)	7.10
(a)(2)	7.10
(a)(3)	N.A.
(a)(4)	N.A.
(a)(5)	7.10
(b)	7.10
(c)	N.A.
311(a)	7.11
(b)	7.11
(c)	N.A.
312(a)	2.06
(b)	11.03
(c)	11.03
313(a)	7.06
(b)(2)	7.06; 7.07
(c)	7.06; 11.02
(d)	7.06
314(a)	4.03; 4.04; 11.05
(b)	N.A.
(c)(1)	11.04
(c)(2)	11.04
(c)(3)	N.A.
(d)	N.A.
(e)	11.05
(f)	N.A.
315(a)	7.01
(b)	7.05; 11.02
(c)	7.01
(d)	7.01
(e)	6.11
316(a) (last sentence)	2.10
(a)(1)(A)	6.05
(a)(1)(B)	6.04
(a)(2)	N.A.
(b)	6.07
(c)	2.14
317(a)(1)	6.08
(a)(2)	6.09
(b)	2.05
318(a)	11.01
(b)	N.A.
(c)	11.01

N.A. means not applicable.

\* This Cross Reference Table is not part of this Indenture.

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INDENTURE, dated as of [●], by and between FibroBiologics, Inc., a Delaware corporation (the “Company”), and [●], as trustee (the “Trustee”).

The Company and the Trustee agree as follows for the benefit of each other and for the equal and ratable benefit of the Holders of the Notes issued under this Indenture.

**ARTICLE 1**  
**DEFINITIONS AND INCORPORATION BY REFERENCE**

**Section 1.01 Definitions.**

“Affiliate” of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For purposes of this definition, “control,” as used with respect to any Person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such Person, whether through the ownership of voting securities, by agreement or otherwise. For purposes of this definition, the terms “controlling,” “controlled by” and “under common control with” have correlative meanings.

“Agent” means any Registrar, co-registrar, Custodian, Paying Agent or additional paying agent.

“Applicable Procedures” means, with respect to any payment, tender, redemption, transfer, exchange, or conversion of or for beneficial interests in any Global Note, the rules and procedures of the Depository that apply to such payment, tender, redemption, transfer, exchange, or conversion.

“Bankruptcy Law” means Title 11, U.S. Code or any similar federal or state law for the relief of debtors.

“Board of Directors” means:

- (1) with respect to a corporation, the board of directors of the corporation or any committee thereof duly authorized to act on behalf of such board;
- (2) with respect to a partnership, the Board of Directors of the general partner of the partnership;
- (3) with respect to a limited liability company, the managing member or members or any controlling committee of managing members thereof; and
- (4) with respect to any other Person, the board or committee of such Person serving a similar function.

“Board Resolution” means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been adopted by the Board of Directors or pursuant to authorization by the Board of Directors and to be in full force and effect on the date of the certificate and delivered to the Trustee.

“Business Day” means any day other than a Legal Holiday. If a payment date falls on a day that is not a Business Day, the related payment shall be made on the next succeeding Business Day as if made on the date the payment is due, and no interest shall accrue on such payment for the intervening period.

“Capital Lease Obligation” means, at the time any determination is to be made, the amount of the liability in respect of a capital lease that would at that time be required to be capitalized on a balance sheet prepared in accordance with GAAP.

“Capital Stock” means:

- (1) in the case of a corporation, corporate stock;
- (2) in the case of an association or business entity, any and all shares, interests, participations, rights or other equivalents (however designated) of corporate stock;
- (3) in the case of a partnership or limited liability company, partnership interests (whether general or limited) or membership interests; and
- (4) any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, the issuing Person.

“Company” means FibroBiologics, Inc., and, subject to Article 5, any and all successors thereto.

“Company Order” means a written order signed in the name of the Company by an Officer.

“Corporate Trust Office of the Trustee” means the designated office of the Trustee at which at any time its corporate trust business in respect of this Indenture shall be administered, which office at the date hereof is located at [●], Attention: [●], or such other address as the Trustee may designate from time to time by notice to the Holders and the Company, or the principal corporate trust office of any successor Trustee (or such other address as such successor Trustee may designate from time to time by notice to the Holders and the Company).

“Custodian” means the Trustee, as custodian for the Depository with respect to any Global Notes, or any successor entity thereto.

“Default” means any event that is, or with the passage of time or the giving of notice or both would be, an Event of Default.

“Depository” means, with respect to the Notes of any Series issuable or issued in whole or in part in the form of one or more Global Notes, the person designated as Depository for such Series by the Company, which Depository shall be a clearing agency registered under the Exchange Act; and if at any time there is more than one such person, “Depository” as used with respect to the Notes of any Series shall mean the Depository with respect to the Notes of such Series.

“Discount Note” means any Note that provides for an amount less than the stated principal amount thereof to be due and payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.02.

“Dollars” and “\$” means the currency of The United States of America.

“Equity Interests” means Capital Stock and all warrants, options or other rights to acquire Capital Stock (but excluding any debt security that is convertible into, or exchangeable for, Capital Stock).

“Exchange Act” means the Securities Exchange Act of 1934, as amended.

“Foreign Currency” means any currency or currency unit issued by a government other than the government of The United States of America.

“GAAP” means generally accepted accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession, which are in effect from time to time.

“Global Note” or “Global Notes” means a Note or Notes, as the case may be, in the form established pursuant to Section 2.02 evidencing all or part of a Series of Notes, issued to the Depository for such Series or its nominee, and registered in the name of such Depository or nominee.

“Government Securities” means direct obligations of, or obligations guaranteed by, The United States of America, and the payment for which the United States pledges its full faith and credit.

“Guarantee” means a guarantee other than by endorsement of negotiable instruments for collection in the ordinary course of business, direct or indirect, in any manner including, without limitation, by way of a pledge of assets or through letters of credit or reimbursement agreements in respect thereof, of all or any part of any Indebtedness.

“Hedging Obligations” means, with respect to any specified Person, the obligations of such Person under:

- (1) interest rate swap agreements (whether from fixed to floating or from floating to fixed), interest rate cap agreements and interest rate collar agreements;
- (2) other agreements or arrangements designed to manage interest rates or interest rate risk; and
- (3) other agreements or arrangements designed to protect such Person against fluctuations in currency exchange rates or commodity prices.

“Holder” means a Person in whose name a Note is registered.

“Indebtedness” means, with respect to any specified Person, any indebtedness of such Person, whether or not contingent (without duplication):

(1) in respect of borrowed money;

(2) evidenced by bonds, notes, debentures or similar instruments;

(3) in respect of banker’s acceptances or other similar instruments or credit transactions (including reimbursement obligations with respect thereto), other than obligations with respect to letters of credit securing obligations (other than obligations described in clauses (1) – (2), (4) or (5) hereof) entered into in the ordinary course of business of such Person to the extent such letters of credit are not drawn upon or, if and to the extent drawn upon, such drawing is reimbursed no later than the third Business Day following receipt by such Person of a demand for reimbursement following payment on the letter of credit;

(4) representing Capital Lease Obligations;

(5) representing the balance deferred and unpaid of the purchase price of any property, except any such balance that constitutes an accrued expense or trade payable; or

(6) representing any Hedging Obligations,

if and to the extent any of the preceding items, other than letters of credit and Hedging Obligations, would appear as a liability upon a balance sheet of the specified Person prepared in accordance with GAAP. In addition, the term “Indebtedness” includes all Indebtedness of others secured by a Lien on any asset of the specified Person, whether or not such Indebtedness is assumed by the specified Person, and, to the extent not otherwise included, the Guarantee by the specified Person of any Indebtedness of any other Person or any liability of any person, whether or not contingent and whether or not it appears on the balance sheet of such Person. Notwithstanding anything to the contrary in the foregoing, the term “Indebtedness” excludes (x) any indebtedness of the Company or any Subsidiary of the Company to the Company or another Subsidiary of the Company and (y) any Guarantee by the Company or any Subsidiary of the Company of indebtedness of the Company or any Subsidiary of the Company.

The amount of any Indebtedness outstanding as of any date shall be:

(1) the accreted value of the Indebtedness, in the case of any Indebtedness that does not require the current payment of interest; and

(2) the principal amount of the Indebtedness, together with any interest on the Indebtedness that is more than 30 days past due, in the case of any other Indebtedness.

“Indenture” means this Indenture, as amended, supplemented or restated from time to time and shall include the form and terms of particular Series of Notes established as contemplated hereunder.

“Legal Holiday” means a Saturday, a Sunday or a day on which banking institutions in the City of New York or the city where the Corporate Trust Office of the Trustee is located at such time are required or authorized by law, regulation or executive order to close or be closed.

“Lien” means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law, including any conditional sale or other title retention agreement, any lease in the nature thereof, any option or other agreement to sell or give a security interest in and any filing of or agreement to give any financing statement under the Uniform Commercial Code (or equivalent statutes) of any jurisdiction; *provided* that in no event shall an operating lease be deemed to constitute a Lien.

“Notes” means notes or other debt instruments of the Company of any Series issued under this Indenture.

“Officer” means, with respect to any Person, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, the Assistant Secretary or any Vice-President of such Person.

“Officer’s Certificate” means a certificate signed on behalf of the Company by an Officer of the Company that meets the requirements of Section 11.05 hereof.

“Opinion of Counsel” means an opinion from legal counsel, who may be an employee of or counsel to the Company or any Subsidiary of the Company, or other counsel reasonably acceptable to the Trustee, that meets the requirements of Section 11.05 hereof.

“Person” means any individual, corporation, partnership, joint venture, association, joint-stock company, trust, unincorporated organization, limited liability company or government or other entity.

“Responsible Officer,” when used with respect to the Trustee, means any director, vice president, assistant vice president or associate within the Corporate Trust Office of the Trustee (or any successor group of the Trustee) or any other officer of the Trustee customarily performing functions similar to those performed by any of the above designated officers who at the time shall have direct responsibility for the administration of this Indenture and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of his knowledge of and familiarity with the particular subject.

“SEC” means the Securities and Exchange Commission.

“Securities Act” means the Securities Act of 1933, as amended.

“Series” or “Series of Notes” means each series of debentures, notes or other debt instruments of the Company created pursuant to Sections 2.01 and 2.02 hereof.

“Significant Subsidiary” means a Subsidiary of any Person that would be a “significant subsidiary” as defined under Regulation S-X promulgated under the Securities Act.

“Stated Maturity” means, with respect to any installment of interest or principal on any series of Indebtedness, the date on which the payment of interest or principal was scheduled to be paid in the documentation governing such Indebtedness, and will not include any contingent obligations to repay, redeem or repurchase any such interest or principal prior to the date originally scheduled for the payment thereof.

“Subsidiary” means, with respect to any specified Person:

(1) any corporation, association or other business entity of which more than 50% of the total voting power of shares of Capital Stock entitled (without regard to the occurrence of any contingency and after giving effect to any voting agreement or shareholders’ agreement that effectively transfers voting power) to vote in the election of directors, managers or trustees of the corporation, association or other business entity is at the time owned or controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person (or a combination thereof); and

(2) any partnership (a) the sole general partner or the managing general partner of which is such Person or a Subsidiary of such Person or (b) the only general partners of which are that Person or one or more Subsidiaries of that Person (or any combination thereof).

“TIA” means the Trust Indenture Act of 1939, as amended (15 U.S.C. §§ 77aaa-77bbbb).

“Trustee” means the person named as the “Trustee” in the first paragraph of this instrument until a successor Trustee shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Trustee” shall mean each person who is then a Trustee hereunder, and if at any time there is more than one such person, “Trustee” as used with respect to the Notes of any Series shall mean the Trustee with respect to Notes of that Series.

“Voting Stock” of any specified Person as of any date means the Capital Stock of such Person that is at the time entitled to vote in the election of the Board of Directors of such Person.

**Section 1.02 Other Definitions.**

<i>Term</i>	<i>Defined in Section</i>
“ <u>Authentication Order</u> ”	2.03
“ <u>Covenant Defeasance</u> ”	8.03
“ <u>Event of Default</u> ”	6.01
“ <u>Legal Defeasance</u> ”	8.02
“ <u>Paying Agent</u> ”	2.04
“ <u>Registrar</u> ”	2.04

**Section 1.03 Incorporation by Reference of Trust Indenture Act.**

Whenever this Indenture refers to a provision of the TIA, the provision is incorporated by reference in and made a part of this Indenture.



The following TIA terms used in this Indenture have the following meanings:

“indenture securities” means the Notes;

“indenture security Holder” means a Holder of a Note;

“indenture to be qualified” means this Indenture;

“indenture trustee” or “institutional trustee” means the Trustee; and

“obligor” on the indenture securities means the Company, and any other obligor upon the Notes.

All other terms used in this Indenture that are defined by the TIA, defined by TIA reference to another statute or defined by SEC rule under the TIA have the meanings so assigned to them.

#### **Section 1.04 Rules of Construction.**

Unless the context otherwise requires:

(1) a term has the meaning assigned to it;

(2) an accounting term not otherwise defined has the meaning assigned to it in accordance with GAAP;

(3) “or” is not exclusive;

(4) words in the singular include the plural, and in the plural include the singular;

(5) “will” shall be interpreted to express a command;

(6) provisions apply to successive events and transactions; and

(7) references to sections of or rules under the Securities Act will be deemed to include substitute, replacement or successor sections or rules adopted by the SEC from time to time.

## **ARTICLE 2 THE NOTES**

#### **Section 2.01 Issuable in Series.**

The aggregate principal amount of Notes that may be authenticated and delivered under this Indenture is unlimited. The Notes may be issued in one or more Series. All Notes of a Series shall be identical except as may be set forth in a Board Resolution, a supplemental indenture or an Officer’s Certificate detailing the adoption of the terms thereof pursuant to the authority granted under a Board Resolution. In the case of Notes of a Series to be issued from time to time, the Board Resolution, Officer’s Certificate or supplemental indenture detailing the adoption of the terms thereof pursuant to authority granted under a Board Resolution may provide for the method by which specified terms (such as interest rate, maturity date, record date or date from which interest shall accrue) are to be determined. Notes may differ between Series in respect of any matters, *provided* that all Series of Notes shall be equally and ratably entitled to the benefits of this Indenture.

**Section 2.02 Establishment of Terms of Series of Notes.**

At or prior to the issuance of any Notes within a Series, the following shall be established (as to the Series generally, in the case of Subsection 2.02(a) and either as to such Notes within the Series or as to the Series generally in the case of Subsections 2.02(b) through 2.02(r) by or pursuant to a Board Resolution, and set forth or determined in the manner provided in a Board Resolution, supplemental indenture or an Officer's Certificate pursuant to authority granted under a Board Resolution:

(a) the title of the Series (which shall distinguish the Notes of that particular Series from the Notes of any other Series);

(b) the price or prices (expressed as a percentage of the principal amount thereof) at which the Notes of the Series will be issued;

(c) any limit upon the aggregate principal amount of the Notes of the Series which may be authenticated and delivered under this Indenture (except for Notes authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Notes of the Series pursuant to Section 2.07, 2.08, 2.11, 3.06 or 9.05);

(d) the date or dates on which the principal of the Notes of the Series is payable;

(e) the rate or rates (which may be fixed or variable) per annum or, if applicable, the method used to determine such rate or rates (including, but not limited to, any commodity, commodity index, stock exchange index or financial index) at which the Notes of the Series shall bear interest, if any, the date or dates from which such interest, if any, shall accrue, the date or dates on which such interest, if any, shall commence and be payable and any regular record date for the interest payable on any interest payment date;

(f) the place or places where the principal of, premium and interest, if any, on the Notes of the Series shall be payable, where the Notes of such Series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Notes of such Series and this Indenture may be served, and the method of such payment, if by wire transfer, mail or other means;

(g) if applicable, the period or periods within which, the price or prices at which and the terms and conditions upon which the Notes of the Series may be redeemed, in whole or in part, at the option of the Company;

(h) the obligation, if any, of the Company to redeem or purchase the Notes of the Series pursuant to any sinking fund or analogous provisions or at the option of a Holder thereof and the period or periods within which, the price or prices at which and the terms and conditions upon which Notes of the Series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

(i) the dates, if any, on which and the price or prices at which the Notes of the Series will be repurchased by the Company at the option of the Holders thereof and other detailed terms and provisions of such repurchase obligations;

(j) the denominations in which the Notes of the Series shall be issuable, if other than minimum denominations of \$2,000 and integral multiples of \$1,000 in excess thereof;

(k) the forms of the Notes of the Series in bearer or fully registered form (and, if in fully registered form, whether the Notes will be issuable as Global Notes);

(l) if other than the principal amount thereof, the portion of the principal amount of the Notes of the Series that shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.02;

(m) the designation of the currency, currencies or currency units in which payment of the principal of, premium and interest, if any, on the Notes of the Series will be made if other than U.S. dollars;

(n) whether the Notes of the Series may be exchangeable for and/or convertible into common shares of the Company or any other security;

(o) the provisions, if any, relating to any security provided for the Notes of the Series, and any subordination in right of payment, if any, of the Notes of the Series;

(p) any addition to or change in the Events of Default which applies to any Notes of the Series and any change in the right of the Trustee or the requisite Holders of such Notes to declare the principal amount thereof due and payable pursuant to Section 6.02;

(q) any addition to or change in the covenants set forth in Articles 4 or 5 that applies to Notes of the Series;

(r) any other terms of the Notes of the Series (which may modify or delete any provision of this Indenture insofar as it applies to such Series); and

(s) any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to Notes of such Series if other than those appointed herein.

All Notes of any one Series need not be issued at the same time and may be issued from time to time, consistent with the terms of this Indenture, if so provided by or pursuant to the Board Resolution, supplemental indenture hereto or Officer's Certificate referred to above, and, unless otherwise provided, a Series may be reopened, without the consent of the Holders, for issuances of additional Notes of such Series; *provided, however*, that if such additional Notes are not fungible with the Notes of such Series for U.S. federal income tax purposes, the additional Notes will have a separate CUSIP number. No Board Resolution or Officer's Certificate may affect the Trustee's own rights, duties or immunities under this Indenture or otherwise with respect to any series of Notes except as it may agree in writing.

**Section 2.03 Execution and Authentication.**

One Officer shall sign the Notes for the Company by manual, facsimile or electronic signature. If an Officer whose signature is on a Note no longer holds that office at the time such Note is authenticated, such Note shall nevertheless be valid.

A Note shall not be valid until authenticated by the manual, facsimile or electronic signature of the Trustee. The signature shall be conclusive evidence that the Note, as applicable, has been authenticated under this Indenture.

The Trustee shall, upon a written order of the Company signed by one Officer (an "Authentication Order"), authenticate Notes for original issue in accordance with this Indenture. The Notes shall be dated their date of authentication.

The Trustee may appoint an authenticating agent acceptable to the Company to authenticate Notes. An authenticating agent may authenticate Notes whenever the Trustee may do so. Each reference in this Indenture to authentication by the Trustee includes authentication by such agent. An authenticating agent has the same rights as an Agent to deal with Holders or an Affiliate of the Company.

At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Notes of any Series executed by the Company to the Trustee for authentication, together with a Company Order for the authentication and delivery of such Notes, and the Trustee in accordance with the Company Order will authenticate and deliver such Notes. In authenticating such Notes, and accepting the additional responsibilities under this Indenture in relation to such Notes, the Trustee shall receive, and (subject to Section 7.01) will be fully protected in relying upon, an Opinion of Counsel stating:

(a) that such form has been established in conformity with the provisions of this Indenture;

(b) that such terms have been established in conformity with the provisions of this Indenture; and

(c) that this Indenture and such Notes, when authenticated and delivered by the Trustee and, with respect to the Notes, when issued by the Company, in the manner and subject to any conditions specified in such Opinion of Counsel, will constitute valid and binding obligations of the Company enforceable in accordance with their terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, reorganization, moratorium, or other laws relating to or affecting creditors' rights and by general principles of equity.

**Section 2.04 Registrar and Paying Agent.**

The Company shall maintain an office or agency where Notes may be presented for registration of transfer or for exchange ("Registrar") and an office or agency where Notes may be presented for payment ("Paying Agent"). The Registrar shall keep a register with respect to each Series of the Notes and of their transfer and exchange. The Company may appoint one or more co-registrars and one or more additional paying agents or change the office of such Registrar or Paying Agent. The term "Registrar" includes any co-registrar and the term "Paying Agent" includes any additional paying agent. The Company may change any Paying Agent or Registrar without notice to any Holder; however, the Company shall maintain a Paying Agent in each place of payment for the Notes of each Series. The Company shall notify the Trustee in writing of the name and address of any Agent not a party to this Indenture. If the Company fails to appoint or maintain another entity as Registrar or Paying Agent, the Trustee shall act as such. The Company or any of its Subsidiaries may act as Paying Agent or Registrar.

The Company initially appoints the Trustee to act as the Registrar and Paying Agent and to act as Custodian with respect to the Global Notes. The Company shall be responsible for making calculations called for under the Notes and this Indenture, including, but not limited to, determination of interest, additional amounts, redemption price, premium, if any, and any other amounts payable on the Notes. The Company will make the calculations in good faith and, absent manifest error, its calculations will be final and binding on the Holders. The Company will provide a schedule of its calculations to the Trustee when requested by the Trustee in writing, and the Trustee is entitled to rely conclusively on the accuracy of the Company's calculations without independent verification. The Trustee shall forward the Company's calculations to any Holder of the Notes upon the written request of such Holder.

**Section 2.05 *Paying Agent to Hold Money in Trust.***

The Company shall require each Paying Agent other than the Trustee to agree in writing that the Paying Agent will hold in trust, for the benefit of Holders of any Series of Notes, or the Trustee, all money held by the Paying Agent for the payment of principal or interest on the Series of Notes, and shall notify the Trustee of any default by the Company in making any such payment. While any such default continues, the Trustee may require a Paying Agent to pay all money held by it to the Trustee. The Company at any time may require a Paying Agent to pay all money held by it to the Trustee. All payments to a Paying Agent on any Notes which remain unclaimed for a period of two years after such payment was due shall be repaid to the Company. Thereafter, the Holder may look only to the Company for repayment. Upon payment over to the Trustee, or to the Company, as the case may be, the Paying Agent (if other than the Company or a Subsidiary) shall have no further liability for the money. If the Company or a Subsidiary acts as Paying Agent, it shall segregate and hold in a separate trust fund for the benefit of Holders of any Series of Notes all money held by it as Paying Agent. Upon any bankruptcy or reorganization proceedings relating to the Company, the Trustee shall serve as Paying Agent for the Notes.

**Section 2.06 *Holder Lists.***

The Trustee shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of Holders of each Series of Notes and shall otherwise comply with TIA Section 312(a). If the Trustee is not the Registrar, the Company shall furnish to the Trustee, at least seven Business Days before each interest payment date and at such other times as the Trustee may request in writing, a list in such form and as of such date as the Trustee may reasonably require of the names and addresses of Holders of each Series of Notes and the Company shall otherwise comply with TIA Section 312(a).

**Section 2.07 *Transfer and Exchange.***

Notes may be transferred or exchanged at the office of the Registrar or co-registrar designated by the Company. Where Notes of a Series are presented to the Registrar or a co-registrar with a request to register a transfer or to exchange them for an equal principal amount of Notes of the same Series, the Registrar shall register the transfer or make the exchange if its requirements for such transactions are met. To permit registrations of transfers and exchanges, the Trustee shall authenticate Notes at the Registrar's request. No service charge shall be made for any registration of transfer or exchange (except as otherwise expressly permitted herein), but the Company may require payment of a sum sufficient to cover any transfer tax or similar governmental charge payable in connection therewith (other than any such transfer tax or similar governmental charge payable upon exchanges pursuant to Sections 2.11, 3.06 or 9.05).

Neither the Company nor the Registrar shall be required (a) to issue, register the transfer of, or exchange Notes of any Series for the period beginning at the opening of business fifteen days immediately preceding the mailing of a notice of redemption of Notes of that Series selected for redemption and ending at the close of business on the day of such mailing, or (b) to register the transfer of or exchange Notes of any Series selected, called or being called for redemption as a whole or a portion thereof, except the unredeemed portion of Notes being redeemed in part.

The Trustee shall have no obligation or duty to monitor, determine or inquire as to compliance with any restrictions on transfer imposed under this Indenture or under applicable law with respect to any transfer of any interest in any Note (including any transfers between or among Depository participants or beneficial owners of interests in any Global Note) other than to require delivery of such certificates and other documentation or evidence as are expressly required by, and to do so if and when expressly required by the terms of, this Indenture, and to examine the same to determine substantial compliance as to form with the express requirements hereof.

**Section 2.08 *Replacement Notes.***

If any mutilated Note is surrendered to the Trustee, or if the Company and the Trustee receive evidence to their satisfaction of the destruction, loss or theft of any Note, the Company shall issue and the Trustee, upon receipt of an Authentication Order together with such indemnity or security sufficient in the judgment of the Trustee and the Company to protect the Company, the Trustee, any Agent and any authenticating agent from any loss that any of them may suffer if a Note is replaced, shall authenticate a replacement Note of the same Series if the Trustee's requirements are met. The Company may charge for its expenses in replacing a Note.

Every replacement Note of any Series is an additional obligation of the Company and shall be entitled to all of the benefits of this Indenture equally and proportionately with all other Notes of that Series duly issued hereunder.

**Section 2.09 *Outstanding Notes.***

The Notes outstanding at any time are all the Notes authenticated by the Trustee except for those canceled by it, those delivered to it for cancellation, those reductions in the interest in a Global Note effected by the Trustee in accordance with the provisions hereof, and those described in this Section as not outstanding. Except as set forth in Section 2.10 hereof, a Note does not cease to be outstanding because the Company or an Affiliate of the Company holds the Note.

If a Note is replaced pursuant to Section 2.08 hereof, it ceases to be outstanding unless the Trustee receives proof satisfactory to it that the replaced Note is held by a bona fide purchaser.

If the principal amount of any Note is considered paid under Section 4.01 hereof, it ceases to be outstanding and interest on it ceases to accrue.

If the Paying Agent (other than the Company, a Subsidiary or an Affiliate of any thereof) holds, on a redemption date or maturity date, money sufficient to pay Notes payable on that date, then on and after that date such Notes shall be deemed to be no longer outstanding and shall cease to accrue interest.

**Section 2.10 Treasury Notes.**

In determining whether the Holders of the required principal amount of Notes of a Series have concurred in any direction, waiver or consent, Notes owned by the Company, or by any Person directly or indirectly controlling or controlled by or under direct or indirect common control with the Company, shall be considered as though not outstanding, except that for the purposes of determining whether the Trustee shall be protected in relying on any such direction, waiver or consent, only Notes of a Series that a Responsible Officer of the Trustee actually knows are so owned shall be so disregarded.

**Section 2.11 Temporary Notes.**

Until certificates representing Notes are ready for delivery, the Company may prepare and the Trustee, upon receipt of an Authentication Order, shall authenticate temporary Notes. Temporary Notes shall be substantially in the form of certificated Notes but may have variations that the Company considers appropriate for temporary Notes and as shall be reasonably acceptable to the Trustee. Without unreasonable delay, the Company shall prepare and the Trustee shall authenticate definitive Notes in exchange for temporary Notes.

Holders of temporary Notes shall be entitled to all of the benefits of this Indenture.

**Section 2.12 Cancellation.**

The Company at any time may deliver Notes to the Trustee for cancellation. The Registrar and Paying Agent shall forward to the Trustee any Notes surrendered to them for registration of transfer, exchange or payment. The Trustee and no one else shall cancel all Notes surrendered for registration of transfer, exchange, payment, replacement or cancellation. The Company may not issue new Notes to replace Notes that it has paid or that have been delivered to the Trustee for cancellation. Cancelled Notes shall be disposed of by the Trustee pursuant to its standard procedures and, upon request by the Company, the Trustee shall deliver a certificate or other evidence of such disposition.

**Section 2.13 Defaulted Interest.**

If the Company defaults in a payment of interest on a Series of Notes, it shall pay the defaulted interest in any lawful manner plus, to the extent lawful, interest payable on the defaulted interest, to the Persons who are Holders of the Series on a subsequent special record date, in each case at the rate provided in the Notes and in Section 4.01 hereof. The Company shall notify the Trustee in writing of the amount of defaulted interest proposed to be paid on each Note and the date of the proposed payment. The Company shall fix or cause to be fixed each such special record date and payment date, *provided* that no such special record date shall be less than 10 days prior to the related payment date for such defaulted interest. At least 15 days before the special record date, the Company (or, upon the written request of the Company, the Trustee in the name and at the expense of the Company) shall mail or cause to be mailed (or, in the case of the Depository with respect to any Global Note, sent electronically) to Holders a notice that states the special record date, the related payment date and the amount of such interest to be paid.

**Section 2.14 Global Notes.**

(a) Terms of Notes. A Board Resolution, a supplemental indenture hereto, or an Officer's Certificate shall establish whether the Notes of a Series shall be issued in whole or in part in the form of one or more Global Notes and shall name the Depository for such Global Note or Notes. Except as provided herein, each Global Note shall be (i) registered in the name of the Depository, (ii) deposited with the Depository or its nominee, and (iii) bear the legend indicated in Section 2.14(c).

(b) Transfer and Exchange. Notwithstanding any provisions to the contrary contained in Section 2.07 and in addition thereto, any Global Note shall be exchangeable pursuant to Section 2.07 for Notes registered in the names of Holders other than the Depository for such Note or its nominee only if (i) such Depository notifies the Company that it is unwilling or unable to continue as Depository for such Global Note or if at any time such Depository ceases to be a clearing agency registered under the Exchange Act, and, in either case, the Company fails to appoint a successor Depository registered as a clearing agency under the Exchange Act within 90 days of such event, (ii) the Company executes and delivers to the Trustee an Officer's Certificate to the effect that such Global Note shall be so exchangeable or (iii) an Event of Default with respect to the Notes represented by such Global Note shall have happened and be continuing. Any Global Note that is exchangeable pursuant to the preceding sentence shall be exchangeable for Notes registered in such names as the Depository shall direct in writing in an aggregate principal amount equal to the principal amount of the Global Note with like tenor and terms.

Except as provided in this Section 2.14(b), a Global Note may not be transferred except as a whole by the Depository with respect to such Global Note to a nominee of such Depository, by a nominee of such Depository to such Depository, by another nominee of such Depository or by the Depository, or any such nominee to a successor Depository or a nominee of such a successor Depository.



(c) Legend. Any Global Note issued hereunder shall bear a legend in substantially the following form:

“This Note is a Global Note within the meaning of the Indenture hereinafter referred to and is registered in the name of the Depositary or a nominee of the Depositary. This Note is exchangeable for Notes registered in the name of a person other than the Depositary or its nominee only in the limited circumstances described in the Indenture, and may not be transferred except as a whole by the Depositary to a nominee of the Depositary, by a nominee of the Depositary to the Depositary or another nominee of the Depositary or by the Depositary or any such nominee to a successor Depositary or a nominee of such a successor Depositary.”

(d) Acts of Holders. The Depositary, as a Holder, may appoint agents and otherwise authorize participants to give or take any request, demand, authorization, direction, notice, consent, waiver or other action which a Holder is entitled to give or take under this Indenture. The record date for purposes of determining the identity of Holders entitled to vote or consent to any action by vote or consent authorized or permitted under this Indenture may be determined as provided for in Section 316(c) of the TIA.

(e) Payments. Notwithstanding the other provisions of this Indenture, unless otherwise specified as contemplated by Section 2.02, payment of the principal of and interest, if any, on any Global Note shall be made to the Holder thereof. Prior to due presentment of a Note for registration of transfer, the Company, the Trustee, and any agent of the Company or the Trustee may treat the Person in whose name such Note is registered as the owner of such Note at the close of business on the regular record date for the purpose of receiving payment of principal of and any premium and (subject to Section 2.13) any interest on such Note and for all other purposes whatsoever, whether or not such Note shall be overdue, and neither the Company, the Trustee nor any agent of the Company or the Trustee will be affected by notice to the contrary.

(f) Consents, Declaration and Directions. Except as provided in Section 2.14(e), the Company, the Trustee and any Agent shall treat a person as the Holder of such principal amount of outstanding Notes of such Series represented by a Global Note as shall be specified in a written statement of the Depositary with respect to such Global Note, for purposes of obtaining any consents, declarations, waivers or directions required to be given by the Holders pursuant to this Indenture.

(g) Responsibility of Trustee or Agents. Neither the Trustee nor any Agent shall have any responsibility for any actions taken or not taken by the Depositary. The Company has entered into a letter of representations with the Depositary in the form provided by the Depositary and the Trustee and each Agent is hereby authorized to act in accordance with such letter and the Applicable Procedures.

#### **Section 2.15 CUSIP Number.**

The Company in issuing the Notes may use “CUSIP” numbers (if then generally in use), and, if so, the Trustee shall use CUSIP numbers in notices as a convenience to Holders; *provided* that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Notes or as contained in any notice and that reliance may be placed only on the other identification numbers printed on the Notes, and any such notice shall not be affected by any defect in or the omission of such numbers. The Company shall promptly notify the Trustee in writing of any change in the CUSIP numbers.

**ARTICLE 3**  
**REDEMPTION AND PREPAYMENT**

**Section 3.01 Notice to Trustee.**

The Company may, with respect to any Series of Notes, reserve the right to redeem and pay the Series of Notes or may covenant to redeem and pay the Series of Notes or any part thereof prior to the Stated Maturity thereof at such time and on such terms as provided for in such Notes. If a Series of Notes is redeemable and the Company wants or is obligated to redeem prior to the Stated Maturity thereof all or part of the Series of Notes pursuant to the terms of such Notes, it shall notify the Trustee in writing of the redemption date and the principal amount of Series of Notes to be redeemed. The Company shall give the notice at least 15 days prior to the mailing or sending of notice of redemption to the Holders of the Notes to be redeemed (or such shorter notice as may be acceptable to the Trustee).

**Section 3.02 Selection of Notes to Be Redeemed.**

If less than all of the Notes of a Series are to be redeemed or purchased in an offer to purchase at any time, the Trustee (subject to the applicable procedures of the Depository) shall select the Notes of a Series to be redeemed or purchased among the Holders of the Notes (a) in compliance with the requirements of the principal national securities exchange, if any, on which the Notes are listed or, (b) if the Notes are not so listed, on a *pro rata* basis, by lot or in accordance with any other method the Trustee considers fair and appropriate.

The Trustee shall promptly notify the Company in writing of the Notes selected for redemption and, in the case of any Note selected for partial redemption, the principal amount thereof to be redeemed. Notes of a Series and portions of them selected shall be in amounts of \$2,000 or whole multiples of \$1,000, or with respect to Notes of any Series issuable in other denominations pursuant to Section 2.02(j), the minimum principal denomination for each Series and integral multiples thereof. Except as provided in the preceding sentence, provisions of this Indenture that apply to Notes of a Series called for redemption or repurchase also apply to portions of Notes of a Series called for redemption or repurchase.

**Section 3.03 Notice of Redemption.**

Unless otherwise indicated for a particular Series by Board Resolution, a supplemental indenture hereto or an Officer's Certificate, at least 30 days but not more than 60 days before a redemption date, the Company shall mail or cause to be mailed, by first class mail, or, in the case of the Depository with respect to any Global Note, sent electronically, a notice of redemption to each Holder whose Notes are to be redeemed at its registered address.

The notice shall identify the Notes of the Series to be redeemed and shall state:

- (1) the redemption date;

- (2) the redemption price (or manner of calculation if not then known);
- (3) the name and address of the Paying Agent;
- (4) that Notes of the Series called for redemption must be surrendered to the Paying Agent to collect the redemption price;
- (5) that interest on Notes of the Series called for redemption ceases to accrue on and after the redemption date;
- (6) the CUSIP number, if any, provided that no representation is made as to the correctness or accuracy of the CUSIP number, if any, listed in such notice or printed on the Notes;
- (7) the conditions precedent, if any, to the redemption; and
- (8) any other information as may be required by the terms of the particular Series of the Notes or the Notes of a Series being redeemed.

At the Company's request, and upon receipt of an Officer's Certificate complying with Section 11.04 hereof at least 15 days prior to the date notice is to be given (unless a shorter period shall be satisfactory to the Trustee), together with the notice to be given setting forth the information to be stated therein as provided in the preceding paragraph, the Trustee shall give the notice of redemption in the Company's name and at its expense.

**Section 3.04 Effect of Notice of Redemption.**

Once notice of redemption is sent in accordance with Section 3.03 hereof, Notes called for redemption become irrevocably due and payable on the redemption date at the redemption price. Unless otherwise indicated for a particular Series by Board Resolution, a supplemental indenture hereto or an Officer's Certificate, a notice of redemption may not be conditional.

**Section 3.05 Deposit of Redemption Price.**

At least one Business Day prior to the redemption date, the Company shall deposit with the Trustee or with the Paying Agent money sufficient to pay the redemption price of and accrued interest on all Notes to be redeemed on that date. The Trustee or the Paying Agent shall promptly return to the Company any money deposited with the Trustee or the Paying Agent by the Company in excess of the amounts necessary to pay the redemption price of, and accrued interest on, all Notes to be redeemed.

If the Company complies with the provisions of the preceding paragraph, on and after the redemption date, interest shall cease to accrue on the Notes or the portions of Notes called for redemption. If any Note called for redemption shall not be so paid upon surrender for redemption because of the failure of the Company to comply with the preceding paragraph, interest shall be paid on the unpaid principal, from the redemption date until such principal is paid, and to the extent lawful on any interest not paid on such unpaid principal, in each case at the rate provided in the Notes and in Section 4.01 hereof.

**Section 3.06 Notes Redeemed in Part.**

Upon surrender of a Note that is redeemed in part, the Company shall issue and, upon the Company's written request, the Trustee shall authenticate for the Holder, or transfer by book-entry, at the expense of the Company, a new Note equal in principal amount to the unredeemed portion of the Note surrendered.

No Notes of \$2,000 or less can be redeemed in part (or with respect to Notes of any Series issuable in other denominations pursuant to Section 2.02(j), the minimum denomination for each Series and integral multiples thereof).

**ARTICLE 4  
COVENANTS**

**Section 4.01 Payment of Principal and Interest.**

The Company covenants and agrees for the benefit of the Holders of each Series of Notes that it will pay or cause to be paid the principal of, premium, if any, and interest on such Series of Notes on the dates and in the manner provided in such Notes. Principal, premium, if any, and interest on any Series of Notes will be considered paid on the date due if the Paying Agent, if other than the Company or a Subsidiary thereof, holds as of 10:00 a.m. Eastern Time on the due date money deposited by the Company in immediately available funds and designated for and sufficient to pay all principal, premium, if any, and interest then due.

**Section 4.02 Maintenance of Office or Agency.**

The Company covenants and agrees for the benefit of the Holders of each Series of Notes that it will maintain an office or agency (which may be an office of the Trustee for such Notes or an affiliate of the Trustee, Registrar for such Notes or co-registrar) where Notes may be surrendered for registration of transfer or for exchange and where notices and demands to or upon the Company in respect of such Notes and this Indenture may be served. The Company will give prompt written notice to the Trustee for such Notes of the location, and any change in the location, of such office or agency. If at any time the Company fails to maintain any such required office or agency or fails to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee.

With respect to each Series of Notes, the Company hereby designates the Corporate Trust Office of the Trustee as one such office or agency of the Company in accordance with Section 2.04.

**Section 4.03 Reports.**

The Company will at all times comply with TIA § 314(a). Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Company's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officer's Certificates).

**Section 4.04 Compliance Certificate.**

The Company and each guarantor of any Series of Notes (to the extent that such guarantor is so required under the TIA) shall deliver to the Trustee with respect to such Series, within 120 days after the end of each fiscal year, an Officer's Certificate signed by the principal executive officer, the principal financial officer or the principal accounting officer, stating that a review of the activities of the Company and its Subsidiaries during the preceding fiscal year has been made under the supervision of the signing Officer with a view to determining whether the Company has kept, observed, performed and fulfilled its obligations under this Indenture, and further stating, as to the Officer signing such certificate, that to the best of his or her knowledge the Company has kept, observed, performed and fulfilled each and every covenant contained in this Indenture and is not in default in the performance or observance of any of the terms, provisions and conditions of this Indenture (or, if a Default or Event of Default shall have occurred, describing all such Defaults or Events of Default of which he or she may have knowledge and what action the Company is taking or proposes to take with respect thereto) and that to the best of his or her knowledge no event has occurred and remains in existence by reason of which payments on account of the principal of or interest, if any, on the Notes is prohibited or if such event has occurred, a description of the event and what action the Company is taking or proposes to take with respect thereto.

**Section 4.05 Taxes.**

The Company will pay, and will cause each of its Subsidiaries to pay, prior to delinquency, all material taxes, assessments, and governmental levies except such as are contested in good faith and by appropriate proceedings or where the failure to effect such payment is not adverse in any material respect to the Holders of the Notes.

**Section 4.06 Stay, Extension and Usury Laws.**

The Company covenants (to the extent that it may lawfully do so) that it will not, and each guarantor of such Notes will not, at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law wherever enacted, now or at any time hereafter in force, that may affect the covenants or the performance of this Indenture; and the Company and each of such guarantors (to the extent that it may lawfully do so), as applicable, hereby expressly waives all benefit or advantage of any such law, and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Trustee for such Notes, but will suffer and permit the execution of every such power as though no such law has been enacted.

**Section 4.07 Corporate Existence.**

Subject to Articles 5 hereof, the Company shall do or cause to be done all things necessary to preserve and keep in full force and effect:

(a) the corporate, partnership or other existence of itself and each of its Subsidiaries, in accordance with the respective organizational documents (as the same may be amended from time to time) of the Company or any such Subsidiary; and

(b) the rights (charter and statutory), licenses and franchises of the Company and its Subsidiaries; *provided, however*, that the Company shall not be required to preserve any such right, license or franchise, or the corporate, partnership or other existence of any of its Subsidiaries, if an Officer shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries, taken as a whole, and that the loss thereof is not adverse in any material respect to the Holders of the Notes.

**ARTICLE 5  
SUCCESSORS**

**Section 5.01 Merger, Consolidation, or Sale of Assets.**

The Company shall not, directly or indirectly:

(a) merge or consolidate with or into another Person or Persons; or

(b) sell, convey, transfer, lease or otherwise dispose of all or substantially all of the properties or assets of the Company and its Subsidiaries, taken as a whole, in one or more related transactions, to another Person or Persons, unless:

(1) either:

(A) the transaction is a merger or consolidation and the Company is the surviving corporation; or

(B) the Person formed by or surviving any such consolidation or merger (if other than the Company) or to which such sale, conveyance, transfer, lease or other disposition has been made is a corporation, limited liability company, partnership, trust or other entity organized and existing under the laws of the United States, any state of the United States or the District of Columbia and expressly assumes all the obligations of the Company under the Notes and this Indenture pursuant to a supplemental indenture in form reasonably satisfactory to the Trustee;

(2) immediately after giving effect to such transaction and treating the Company's obligations in connection with or as a result of such transaction as having been incurred as of the time of such transaction, no Default or Event of Default shall have occurred and be continuing; and

(3) the Company or the surviving entity shall have delivered to the Trustee (a) an Officer's Certificate stating that the conditions in (1) and (2) above have been satisfied and any other conditions precedent in this Indenture relating to such transaction have been satisfied and (b) an Opinion of Counsel stating that the conditions in (1) above have been satisfied and any other conditions precedent in this Indenture relating to such transaction have been satisfied.

**Section 5.02 Successor Corporation Substituted.**

Upon any merger or consolidation, or any sale, conveyance, transfer, lease or other disposition of all or substantially all of the properties or assets of the Company and its Subsidiaries, taken as a whole, in a transaction that is subject to, and that complies with the provisions of, Section 5.01 hereof, the successor Person into which the Company is merged or formed by such consolidation or to which such sale, conveyance, transfer, lease or other disposition is made shall succeed to, and be substituted for (so that from and after the date of such merger, consolidation, sale, conveyance, transfer, lease or other disposition, the provisions of this Indenture referring to the "Company" shall refer instead to the successor Person and not to the Company), and may exercise every right and power of the Company under this Indenture with the same effect as if such successor Person had been named as the Company herein; *provided, however*, that the predecessor Company shall not be relieved from the obligation to pay the principal of and interest on any Series of Notes except in the case of a sale of all of the assets of the Company and its Subsidiaries, taken as a whole, in a transaction that is subject to, and that complies with the provisions of, Section 5.01 hereof.

**ARTICLE 6  
DEFAULTS AND REMEDIES**

**Section 6.01 Events of Default.**

"Event of Default," wherever used herein with respect to Notes of any Series, means any one of the following events, unless in the establishing Board Resolution, supplemental indenture or Officer's Certificate, it is provided that such Series shall not have the benefit of said Event of Default:

- (a) default in the payment of any interest on any Note of that Series when it becomes due and payable, and continuance of such default for a period of 30 days; or
- (b) default in payment when due of the principal of, or premium, if any, on any Note of that Series; or
- (c) failure on the part of the Company to comply with Article 5;

(d) default in the performance or breach of any covenant or warranty of the Company in this Indenture or in any Board Resolution, supplemental indenture or Officer's Certificate with respect to such Series (other than a covenant or warranty that has been included in this Indenture or a Board Resolution, supplemental indenture or Officer's Certificate solely for the benefit of Series of Notes other than that Series), which default continues uncured for a period of 90 days after (i) the Company receives written notice from the Trustee for such Notes or (ii) the Company and the Trustee receive written notice from Holders of not less than 25% in aggregate principal amount of Notes of that Series outstanding; or

- (e) the Company or any of its Significant Subsidiaries:

- (1) commences a voluntary case in bankruptcy,

(2) consents to the entry of an order for relief against it in an involuntary bankruptcy case,

(3) applies for or consents to the appointment of any custodian, receiver, trustee, conservator, liquidator, rehabilitator or similar officer of it or a Significant Subsidiary or for all or substantially all of any of its property,

(4) makes a general assignment for the benefit of its creditors, or

(5) generally is unable to pay its debts as they become due;

(f) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(1) is for relief against the Company or any of its Significant Subsidiaries;

(2) appoints a custodian of the Company or any of its Significant Subsidiaries or for all or substantially all of the property of the Company or any of its Significant Subsidiaries; or

(3) orders the winding up or liquidation of the Company or any of its Significant Subsidiaries,

and the order or decree remains unstayed and in effect for 60 consecutive days; or

(g) any other Event of Default provided with respect to Notes of that Series, which is specified in a Board Resolution, a supplemental indenture hereto or an Officer's Certificate, in accordance with Section 2.02.

The Company shall deliver to the Trustee promptly after the occurrence thereof, written notice in the form of an Officer's Certificate of any event which with the giving of notice and the lapse of time would become an Event of Default under clause (c), (d) or (g), its status and what action the Company is taking or proposes to take with respect thereto.

**Section 6.02 Acceleration.**

If an Event of Default with respect to Notes of any Series at the time outstanding occurs and is continuing (other than an Event of Default referred to in Section 6.01(e) or (f)) (in either case with respect to the Company) then in every such case the Trustee or the Holders of not less than 25% in aggregate principal amount of the outstanding Notes of that Series may declare the principal amount (or, if any Notes of that Series are Discount Notes, such portion of the principal amount as may be specified in the terms of such Notes) of and accrued and unpaid interest, if any, on all of the Notes of that Series to be due and payable immediately, by a notice in writing to the Company (and to the Trustee if given by Holders), and upon any such declaration such principal amount (or specified amount) and accrued and unpaid interest, if any, shall become immediately due and payable. If an Event of Default specified in Section 6.01(e) or (f) (in either case with respect to the Company) shall occur, the principal amount (or specified amount) of and accrued and unpaid interest, if any, on all outstanding Notes shall ipso facto become and be immediately due and payable without any declaration or other act on the part of the Trustee or any Holder.

At any time after such a declaration of acceleration with respect to any Series has been made, the Holders of a majority in principal amount of the outstanding Notes of that Series, by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if the rescission and annulment would not conflict with any judgment or decree already rendered and if all existing Events of Default with respect to that Series (except nonpayment of principal, interest or premium that has become due solely because of the acceleration) have been cured or waived and all sums paid or advanced by the Trustee hereunder and the reasonable compensation expenses and disbursements of the Trustee and its agents and counsel have been paid.



No such rescission shall affect any subsequent Event of Default or impair any right consequent thereon.

**Section 6.03 *Other Remedies.***

If an Event of Default with respect to Notes of any Series at the time outstanding occurs and is continuing, the Trustee may pursue any available remedy to collect the payment of principal, premium, if any, and interest on such Notes or to enforce the performance of any provision of such Notes or this Indenture.

The Trustee may maintain a proceeding even if it does not possess any of the Notes or does not produce any of them in the proceeding. A delay or omission by the Trustee or any Holder of a Note in exercising any right or remedy accruing upon an Event of Default shall not impair the right or remedy or constitute a waiver of or acquiescence in the Event of Default. All remedies are cumulative to the extent permitted by law.

**Section 6.04 *Waiver of Past Defaults.***

Prior to the acceleration of the maturity of the Notes of any Series as provided in Section 6.02, the Holders of a majority in aggregate principal amount of the Notes of any Series then outstanding by notice to the Trustee may on behalf of the Holders of all of the Notes of such Series waive any existing Default or Event of Default with respect to such Series and its consequences under this Indenture except (i) a continuing Default or Event of Default in the payment of premium or interest on, or the principal of, the Notes of such Series (including in connection with an offer to purchase) or (ii) a Default or Event of Default in respect of a provision that under Section 9.02 cannot be amended without the consent of each Holder affected thereby. Upon any such waiver, such Default or Event of Default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other Default or Event of Default or impair any right consequent thereon.

**Section 6.05 Control by Majority.**

Holders of a majority in aggregate principal amount of the then outstanding Notes of any Series may in writing direct the time, method and place of conducting any proceeding for exercising any remedy available to the Trustee or exercising any trust or power conferred on it, subject to Section 7.02(f). However, the Trustee may refuse to follow any direction that conflicts with law or this Indenture that the Trustee determines may be unduly prejudicial to the rights of other Holders of Notes of such Series (it being understood that the Trustee does not have an affirmative duty to ascertain whether any such directions are unduly prejudicial to such Holders) or that may involve the Trustee in personal liability. The Trustee may take any other action deemed proper by the Trustee that is not inconsistent with such direction.

**Section 6.06 Limitation on Suits.**

A Holder of any Series of Notes may pursue a remedy with respect to this Indenture or the Notes only if:

- (a) the Holder of a Note gives to the Trustee written notice of a continuing Event of Default;
- (b) the Holders of at least 25% in aggregate principal amount of the then outstanding Notes of such Series make a written request to the Trustee to pursue the remedy;
- (c) such Holder of a Note or Holders of Notes offer and, if requested, provide to the Trustee security or indemnity satisfactory to the Trustee against any loss, liability or expense;
- (d) the Trustee does not comply with the request within 60 days after receipt of the request and the offer and, if requested, the provision of security or indemnity; and
- (e) during such 60-day period the Holders of a majority in aggregate principal amount of the then outstanding Notes of such Series do not give the Trustee a direction inconsistent with the request.

A Holder of any Series of Notes may not use this Indenture to prejudice the rights of another Holder of Notes or to obtain a preference or priority over another Holder of Notes.

**Section 6.07 Rights of Holders of Notes to Receive Payment.**

Notwithstanding any other provision of this Indenture, the right of any Holder of a Note to receive payment of principal, premium, if any, and interest on the Note, on or after the respective due dates expressed in the Note (including in connection with an offer to purchase), or to bring suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

**Section 6.08 Collection Suit by Trustee.**

If an Event of Default specified in Section 6.01 (a) or (b) hereof occurs and is continuing, the Trustee is authorized to recover judgment in its own name and as trustee of an express trust against the Company for the whole amount of principal of, premium, if any, and interest remaining unpaid on, the Notes and interest on overdue principal and, to the extent lawful, interest and such further amount as shall be sufficient to cover the costs and expenses of collection, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

**Section 6.09 Trustee May File Proofs of Claim.**

The Trustee for each Series of Notes is authorized to file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel) and the Holders of the Notes of such Series allowed in any judicial proceedings relative to the Company (or any other obligor upon the Notes of such Series), its creditors or its property and shall be entitled and empowered to collect, receive and distribute any money or other property payable or deliverable on any such claims and any custodian in any such judicial proceeding is hereby authorized by each Holder of such Series to make such payments to the Trustee, and in the event that the Trustee shall consent to the making of such payments directly to the Holders of such Series, to pay to the Trustee any amount due to it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07 hereof. To the extent that the payment of any such compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07 hereof out of the estate in any such proceeding, shall be denied for any reason, payment of the same shall be secured by a Lien on, and shall be paid out of, any and all distributions, dividends, money, securities and other properties that the Holders of such Series may be entitled to receive in such proceeding whether in liquidation or under any plan of reorganization or arrangement or otherwise. Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Holder any plan of reorganization, arrangement, adjustment or composition affecting the Notes or the rights of any Holder, or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceeding.

**Section 6.10 Priorities.**

If the Trustee collects any money or property with respect to a Series of Notes pursuant to this Article 6, or, after an Event of Default, any money or other property distributable in respect of the Company's obligations under this Indenture, it shall pay out the money or property in the following order:

*First:* to the Trustee, its agents and attorneys for amounts due under Section 7.07 hereof applicable to the Notes of such Series, including payment of all compensation, expenses and liabilities incurred, and all advances made, by the Trustee and the costs and expenses of collection;

*Second:* to Holders of Notes of such Series for amounts due and unpaid on the Notes for principal, premium, if any, and interest, ratably, without preference or priority of any kind, according to the amounts due and payable on the Notes for principal, premium, if any, and interest, respectively; and

*Third:* to the Company or to such party as a court of competent jurisdiction shall direct.

The Trustee may fix a record date and payment date for any payment to Holders pursuant to this Section 6.10.

**Section 6.11 *Undertaking for Costs.***

In any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken or omitted by it as a Trustee, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including reasonable attorneys' fees and expenses, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Section does not apply to a suit by the Trustee, a suit by a Holder of a Note pursuant to Section 6.07 hereof, or a suit by Holders or group of Holders of more than 10% in principal amount of the then outstanding Notes of any Series.

**Section 6.12 *Restoration of Rights and Remedies.***

If the Trustee or any Holder has instituted any proceeding to enforce any right or remedy under this Indenture and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to any determination in such proceeding, the Company, the Trustee, and the Holders will be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders will continue as though no such proceeding had been instituted.

**ARTICLE 7  
TRUSTEE**

**Section 7.01 *Duties of Trustee.***

(a) If an Event of Default has occurred and is continuing, the Trustee will exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in its exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(b) Except during the continuance of an Event of Default the duties of the Trustee will be determined solely by the express provisions of this Indenture and the Trustee need perform only those duties that are specifically set forth in this Indenture and no others, and no implied covenants or obligations shall be read into this Indenture against the Trustee.

(c) In the absence of bad faith on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture. However, the Trustee will examine the certificates and opinions to determine whether or not they conform to the requirements of this Indenture (but need not confirm or investigate the accuracy of mathematical calculations or other facts stated thereon).

(d) The Trustee may not be relieved from liabilities for its own negligent action, its own negligent failure to act, or its own willful misconduct, except that:

(1) this paragraph does not limit the effect of paragraph (b) of this Section 7.01;

(2) the Trustee will not be liable for any error of judgment made in good faith by a Responsible Officer, unless it is proved that the Trustee was negligent in ascertaining the pertinent facts;

(3) the Trustee will not be liable with respect to any action it takes or omits to take in good faith in accordance with a direction received by it pursuant to Section 6.05 hereof; and

(4) no provision of this Indenture will require the Trustee to expend or risk its own funds or incur any liability. The Trustee will be under no obligation to exercise any of its rights and powers under this Indenture at the request of any Holders, unless such Holder has offered to the Trustee security and indemnity satisfactory to it against any loss, liability or expense.

(e) Whether or not therein expressly so provided, every provision of this Indenture that in any way relates to the Trustee is subject to paragraphs (a), (b), (c) and (d) of this Section 7.01.

(f) The Trustee will not be liable for interest on any money received by it except as the Trustee may agree in writing with the Company. Money held in trust by the Trustee need not be segregated from other funds except to the extent required by law. The Trustee shall not be required to give any bond or surety in respect of the performance of its powers or duties hereunder. The permissive rights or powers of the Trustee to do things enumerated in this Indenture shall not be construed as a duty of the Trustee.

**Section 7.02 *Rights of Trustee.***

(a) The Trustee may conclusively rely upon any document (whether in its original or facsimile form) believed by it to be genuine and to have been signed or presented by the proper Person. The Trustee need not investigate any fact or matter stated in the document.

(b) Before the Trustee acts or refrains from acting or as specifically called for in this Indenture, it may require an Officer's Certificate or an Opinion of Counsel or both. The Trustee will not be liable for any action it takes or omits to take in good faith in reliance on such Officer's Certificate or Opinion of Counsel. The Trustee may consult with counsel and the written advice of such counsel or any Opinion of Counsel will be full and complete authorization and protection from liability in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon.

(c) The Trustee may act through its attorneys and agents and will not be responsible for the misconduct or negligence of any attorney or agent appointed with due care.

(d) The Trustee will not be liable for any action it takes or omits to take in good faith that it believes to be authorized or within the rights or powers conferred upon it by this Indenture.

(e) Unless otherwise specifically provided in this Indenture, any demand, request, direction or notice from the Company will be sufficient if signed by an Officer of the Company. Any resolution of the Board of Directors may be sufficiently evidenced by a Board Resolution.

(f) The Trustee will be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders unless such Holders have offered to the Trustee indemnity or security satisfactory to the Trustee against the losses, liabilities and expenses that might be incurred by it in compliance with such request or direction.

(g) In no event shall the Trustee be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services, or other unavailability of the Federal Reserve Bank wire or facsimile or other wire or communication facility; it being understood that the Trustee shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

(h) In no event shall the Trustee be responsible or liable for special, indirect, punitive, or consequential loss or damage of any kind whatsoever (including, but not limited to, loss of profit) irrespective of whether the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action.

(i) The rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be compensated, reimbursed, and indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder.

(j) The Trustee shall not be deemed to have notice of any Default or Event of Default unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of a Default or Event of Default from the Company or by the Holders of at least 25% in aggregate principal amount of the then outstanding Notes of such Series is received by the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Notes and this Indenture.

(k) The Trustee may request that the Company deliver a certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture.

(l) The Trustee will not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness, or other paper or document, or inquire as to the performance by the Company or any guarantor of any of their covenants in this Indenture, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it will be entitled to examine the books, records, and premises of the Company or any such guarantor, personally or by agent or attorney at the sole cost of the Company and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation.

**Section 7.03 Individual Rights of Trustee.**

The Trustee in its individual or any other capacity may become the owner or pledgee of Notes and may otherwise deal with the Company or any Affiliate of the Company with the same rights it would have if it were not Trustee. However, in the event that the Trustee acquires any conflicting interest as defined in the TIA it must eliminate such conflict within 90 days, apply to the SEC for permission to continue as trustee (if this Indenture has been qualified under the TIA) or resign. Any Agent may do the same with like rights and duties. The Trustee is also subject to Sections 7.10 and 7.11 hereof.

**Section 7.04 Trustee's Disclaimer.**

The Trustee will not be responsible for and makes no representation as to the validity or adequacy of this Indenture or the Notes, it shall not be accountable for the Company's use of the proceeds from the Notes or any money paid to the Company or upon the Company's direction under any provision of this Indenture, it will not be responsible for the use or application of any money received by any Paying Agent other than the Trustee, and it will not be responsible for any statement or recital herein or any statement in the Notes or any other document in connection with the sale of the Notes or pursuant to this Indenture other than its certificate of authentication. Under no circumstances shall the Trustee be liable in its individual capacity for the obligations evidenced by any Notes.

**Section 7.05 Notice of Defaults.**

If a Default or Event of Default occurs and is continuing and if it is known to the Trustee, the Trustee will mail to Holders of Notes a notice of the Default or Event of Default within 90 days after it occurs. Except in the case of a Default or Event of Default in payment of principal of, premium, if any, or interest on, any Note, the Trustee may withhold the notice from Holders of the Notes if and so long as a committee of its Responsible Officers in good faith determines that withholding the notice is in the interests of the Holders of the Notes.

**Section 7.06 Reports by Trustee to Holders of the Notes.**

(a) Within 60 days after each December 15 beginning with the December 15 following the date of this Indenture, and for so long as Notes remain outstanding, the Trustee will mail to the Holders of the Notes a brief report dated as of such reporting date that complies with TIA § 313(a) (but if no event described in TIA § 313(a) has occurred within the twelve months preceding the reporting date, no report need be transmitted). The Trustee also will comply with TIA § 313(b)(2). The Trustee will also transmit by mail all reports as required by TIA § 313(c).

(b) A copy of each report at the time of its mailing to the Holders of Notes will be mailed by the Trustee to the Company and filed by the Trustee with the SEC and each stock exchange on which the Notes are listed in accordance with TIA § 313(d). The Company will promptly notify the Trustee when the Notes are listed on any stock exchange or delisted therefrom.

**Section 7.07 Compensation and Indemnity.**

(a) The Company will pay to the Trustee from time to time such compensation for its acceptance of this Indenture and services hereunder as the Trustee and the Company may agree from time to time in writing. The Trustee's compensation will not be limited by any law on compensation of a trustee of an express trust. The Company will reimburse the Trustee promptly upon request for all reasonable disbursements, advances and expenses incurred or made by it in addition to the compensation for its services. Such expenses will include the reasonable compensation, disbursements and expenses of the Trustee's agents and counsel.

(b) The Company will indemnify the Trustee, its officers, directors, employees, representatives and agents from and against any and all losses, liabilities or expenses incurred by it arising out of or in connection with the acceptance or administration of its duties under this Indenture, including the costs and expenses of enforcing this Indenture against the Company (including this Section 7.07) and defending itself against any claim (whether asserted by the Company, any Holder or any other Person) or liability in connection with the exercise or performance of any of its powers or duties hereunder, except to the extent any such loss, liability or expense may be attributable to its negligence or willful misconduct as finally adjudicated by a court of competent jurisdiction. The Trustee will notify the Company promptly of any claim for which it may seek indemnity. Failure by the Trustee to so notify the Company will not relieve the Company of its obligations hereunder. The Company will defend the claim and the Trustee will cooperate in the defense. The Trustee may have separate counsel and the Company will pay the reasonable fees and expenses of such counsel. The Company need not pay for any settlement made without its consent, which consent will not be unreasonably withheld.

(c) The obligations of the Company under this Section 7.07 will survive the resignation or removal of the Trustee and the satisfaction and discharge of this Indenture.

(d) To secure the Company's payment obligations in this Section 7.07, the Trustee will have a Lien prior to the Notes on all money or property held or collected by the Trustee. Such Lien will survive the resignation or removal of the Trustee and the satisfaction and discharge of this Indenture.

(e) When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.01(e) or (f) hereof occurs, the expenses and the compensation for the services (including the fees and expenses of its agents and counsel) are intended to constitute expenses of administration under any Bankruptcy Law.

(f) The Trustee will comply with the provisions of TIA § 313(b)(2) to the extent applicable.



(g) "Trustee" for the purposes of this Section 7.07 shall include any predecessor Trustee and the Trustee in each of its capacities hereunder and each agent, custodian and other person employed to act hereunder; *provided, however*, that the negligence or willful misconduct of any Trustee hereunder shall not affect the rights of any other Trustee hereunder.

**Section 7.08 Replacement of Trustee.**

(a) A resignation or removal of the Trustee and appointment of a successor Trustee will become effective only upon the successor Trustee's acceptance of appointment as provided in this Section 7.08.

(b) The Trustee may resign in writing at any time and be discharged from the trust hereby created with respect to one or more Series of Notes by so notifying the Company with 30 days prior notice. The Holders of a majority in aggregate principal amount of the then outstanding Notes of such Series may remove the Trustee by so notifying the Trustee and the Company with 30 days prior notice in writing. The Company may remove the Trustee with respect to one or more Series of Notes with 30 days prior written notice if:

- (1) the Trustee fails to comply with Section 7.10 hereof;
- (2) the Trustee is adjudged a bankrupt or an insolvent or an order for relief is entered with respect to the Trustee under any Bankruptcy Law;
- (3) a custodian or public officer takes charge of the Trustee or its property; or
- (4) the Trustee becomes incapable of acting.

(c) If the Trustee resigns or is removed or if a vacancy exists in the office of Trustee for any reason, the Company will promptly appoint a successor Trustee. Within one year after the successor Trustee takes office, the Holders of a majority in aggregate principal amount of the then outstanding Notes of such Series may appoint a successor Trustee to replace the successor Trustee appointed by the Company.

(d) If a successor Trustee does not take office within 60 days after the retiring Trustee resigns or is removed, the retiring Trustee, the Company, or the Holders of at least 10% in aggregate principal amount of the then outstanding Notes of such Series may petition any court of competent jurisdiction, at the expense of the Company, for the appointment of a successor Trustee.

(e) If the Trustee, after written request by any Holder who has been a Holder for at least six months, fails to comply with Section 7.10 hereof, such Holder may petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee.

(f) A successor Trustee will deliver a written acceptance of its appointment to the retiring Trustee and to the Company. Thereupon, the resignation or removal of the retiring Trustee will become effective, and the successor Trustee will have all the rights, powers and duties of the Trustee under this Indenture. The successor Trustee will mail a notice of its succession to Holders. The retiring Trustee will promptly transfer all properly held by it as Trustee to the successor Trustee; *provided* all sums owing to the Trustee hereunder have been paid and subject to the Lien provided for in Section 7.07 hereof. Notwithstanding replacement of the Trustee pursuant to this Section 7.08, the Company's obligations under Section 7.07 hereof will continue for the benefit of the retiring Trustee.

**Section 7.09 Successor Trustee by Merger, etc.**

If the Trustee consolidates, merges or converts into, or transfers all or substantially all of its corporate trust business to, another corporation, the successor corporation without any further act will be the successor Trustee.

**Section 7.10 Eligibility; Disqualification.**

There will at all times be a Trustee hereunder that is a corporation organized and doing business under the laws of the United States of America or of any state thereof that is authorized under such laws to exercise corporate trustee power, that is subject to supervision or examination by federal or state authorities and that has a combined capital and surplus of at least \$100.0 million as set forth in its most recent published annual report of condition.

This Indenture will always have a Trustee who satisfies the requirements of TIA § 310(a)(1), (2) and (5). The Trustee is subject to TIA § 310(b). There shall be excluded from the operation of TIA § 310(b)(1) any series of Notes under this Indenture if the requirements for such exclusion set forth in TIA § 310(b)(1) are met.

**Section 7.11 Preferential Collection of Claims Against Company.**

The Trustee is subject to TIA § 311(a), excluding any creditor relationship listed in TIA § 311(b). A Trustee who has resigned or been removed shall be subject to TIA § 311(a) to the extent indicated therein.

**ARTICLE 8  
LEGAL DEFEASANCE AND COVENANT DEFEASANCE**

**Section 8.01 Option to Effect Legal Defeasance or Covenant Defeasance.**

The Company may at any time, at the option of its Board of Directors evidenced by a resolution set forth in an Officer's Certificate, elect to have either Section 8.02 or 8.03 hereof be applied to all outstanding Notes upon compliance with the conditions set forth below in this Article 8.

**Section 8.02 Legal Defeasance and Discharge.**

Upon the Company's exercise under Section 8.01 hereof of the option applicable to this Section 8.02, the Company will, subject to the satisfaction of the conditions set forth in Section 8.04 hereof, be deemed to have been discharged from its obligations with respect to all outstanding Notes of such Series on the date the conditions set forth below are satisfied (hereinafter, "Legal Defeasance"). For this purpose, Legal Defeasance means that the Company will be deemed to have paid and discharged the entire Indebtedness represented by the outstanding Notes of such Series, which will thereafter be deemed to be "outstanding" only for the purposes of Section 8.05 hereof and the other Sections of this Indenture referred to in clauses (a) and (b) below, and to have satisfied all their other obligations under such Notes and this Indenture (and the Trustee, on written demand of and at the expense of the Company, shall execute proper instruments acknowledging the same), except for the following provisions which will survive until otherwise terminated or discharged hereunder:

- (a) the rights of Holders of outstanding Notes to receive payments in respect of the principal of, or interest or premium, if any, on, such Notes when such payments are due from the trust referred to in Section 8.04 hereof;
- (b) the Company's obligations with respect to such Notes under Article 2 and Section 4.02 hereof;
- (c) the rights, powers, trusts, duties and immunities of the Trustee hereunder and the Company's obligations in connection therewith; and
- (d) this Article 8.

Subject to compliance with this Article 8, the Company may exercise its option under this Section 8.02 notwithstanding the prior exercise of its option under Section 8.03 hereof.

**Section 8.03 Covenant Defeasance.**

Upon the Company's exercise under Section 8.01 hereof of the option applicable to this Section 8.03, the Company and each of the guarantors, if any, will, subject to the satisfaction of the conditions set forth in Section 8.04 hereof, be released from their obligations under the covenants contained in Section 4.03 and any other covenants specified in the applicable Board Resolutions, supplemental indenture or Officer's Certificate as being subject to covenant defeasance pursuant to this Section 8.03, in each case, with respect to the outstanding Notes of the applicable Series on and after the date the conditions set forth in Section 8.04 are satisfied (hereinafter, "Covenant Defeasance"), and the Notes shall thereafter be deemed not "outstanding" for the purposes of any direction, waiver, consent or declaration or act of Holders (and the consequences of any thereof) in connection with such covenants, but shall continue to be deemed "outstanding" for all other purposes hereunder (it being understood that such Notes shall not be deemed outstanding for accounting purposes). For this purpose, Covenant Defeasance means that, with respect to the outstanding Notes of such Series, the Company may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in any such covenant, whether directly or indirectly, by reason of any reference elsewhere herein to any such covenant or by reason of any reference in any such covenant to any other provision herein or in any other document and such omission to comply shall not constitute a Default or an Event of Default under Section 6.01 hereof, but, except as specified above, the remainder of this Indenture and such Notes shall be unaffected thereby. In addition, upon the Company's exercise under Section 8.01 hereof of the option applicable to this Section 8.03 hereof, subject to the satisfaction of the conditions set forth in Section 8.04 hereof, (i) the failure to comply with any such covenants shall not constitute an Event of Default pursuant to Section 6.01(d) and (ii) Section 6.01(f) (with respect to Significant Subsidiaries only) and (g) (with respect to Significant Subsidiaries only) shall not constitute an Event of Default.

**Section 8.04 Conditions to Legal or Covenant Defeasance.**

In order to exercise either Legal Defeasance or Covenant Defeasance under either Section 8.02 or 8.03 hereof:

(a) the Company must irrevocably deposit with the Trustee, in trust, for the benefit of the Holders, cash in U.S. dollars, non-callable Government Securities, or a combination thereof, in such amounts as will be sufficient, in the written opinion of a nationally recognized investment bank, appraisal firm, or firm of independent public accountants delivered to the Trustee, to pay the principal of, premium, if any, and interest on, the outstanding Notes on the stated date for payment thereof or on the applicable redemption date, as the case may be, and the Company must specify whether the Notes are being defeased to such stated date for payment or to a particular redemption date;

(b) in the case of an election under Section 8.02 hereof, the Company must deliver to the Trustee an Opinion of Counsel confirming that:

(1) the Company has received from, or there has been published by, the Internal Revenue Service a ruling; or

(2) since the date of this Indenture, there has been a change in the applicable federal income tax law,

in either case to the effect that, and based thereon such Opinion of Counsel shall confirm that, the beneficial owners of the outstanding Notes will not recognize income, gain or loss for federal income tax purposes as a result of such Legal Defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Legal Defeasance had not occurred;

(c) in the case of an election under Section 8.03 hereof, the Company must deliver to the Trustee an Opinion of Counsel confirming that the beneficial owners of the outstanding Notes will not recognize income, gain or loss for federal income tax purposes as a result of such Covenant Defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Covenant Defeasance had not occurred;

(d) no Default or Event of Default shall have occurred and be continuing on the date of such deposit (other than a Default or Event of Default resulting from the borrowing of funds to be applied to such deposit) and the deposit will not result in a breach or violation of, or constitute a default under, any other instrument to which the Company is a party or by which the Company is bound;

(e) such Legal Defeasance or Covenant Defeasance will not result in a breach or violation of, or constitute a default under, any material agreement or instrument (other than this Indenture) to which the Company or any of its Subsidiaries is a party or by which the Company or any of its Subsidiaries is bound;

(f) the Company must deliver to the Trustee an Officer's Certificate stating that the deposit was not made by the Company with the intent of preferring the Holders of Notes over the other creditors of the Company with the intent of defeating, hindering, delaying or defrauding any creditors of the Company or others; and

(g) the Company must deliver to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent relating to the Legal Defeasance or the Covenant Defeasance have been complied with.

**Section 8.05 Deposited Money and Government Securities to be Held in Trust; Other Miscellaneous Provisions.**

Subject to Section 8.06 hereof, all money and non-callable Government Securities (including the proceeds thereof) deposited with the Trustee (or other qualifying trustee, collectively for purposes of this Section 8.05, the "Trustee") pursuant to Section 8.04 hereof in respect of the outstanding Notes of any Series will be held in trust and applied by the Trustee, in accordance with the provisions of such Notes and this Indenture, to the payment, either directly or through any Paying Agent (including the Company acting as Paying Agent) as the Trustee may determine, to the Holders of such Notes of all sums due and to become due thereon in respect of principal, premium, if any, and interest, but such money need not be segregated from other funds except to the extent required by law.

The Company will pay and indemnify the Trustee against any tax, fee or other charge imposed on or assessed against the cash or non-callable Government Securities deposited pursuant to Section 8.04 hereof or the principal and interest received in respect thereof other than any such tax, fee or other charge which by law is for the account of the Holders of the outstanding Notes of the applicable Series.

Notwithstanding anything in this Article 8 to the contrary, the Trustee will deliver or pay to the Company from time to time upon the request of the Company any money or non-callable Government Securities held by it as provided in Section 8.04 hereof which, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee (which may be the opinion delivered under Section 8.04(a) hereof), are in excess of the amount thereof that would then be required to be deposited to effect an equivalent Legal Defeasance or Covenant Defeasance.

**Section 8.06 Repayment to Company.**

Any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of the principal of, premium, if any, or interest on, any Series of Notes and remaining unclaimed for two years after such principal, premium, if any, or interest has become due and payable shall, subject to applicable abandoned property law, be paid to the Company on its request or (if then held by the Company) will be discharged from such trust; and the Holder of such Note will thereafter be permitted to look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, will thereupon cease; *provided, however*, that the Trustee or such Paying Agent, before being required to make any such repayment, may at the expense of the Company cause to be published once, in *The New York Times* and *The Wall Street Journal* (national edition), notice that such money remains unclaimed and that, after a date specified therein, which will not be less than 30 days from the date of such notification or publication, any unclaimed balance of such money then remaining will be repaid to the Company.

**Section 8.07 Reinstatement.**

If the Trustee or Paying Agent is unable to apply any U.S. dollars or non-callable Government Securities in accordance with Section 8.02 or 8.03 hereof, as the case may be, by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, then the Company's and any applicable guarantors' obligations under this Indenture and the applicable Notes and the guarantees will be revived and reinstated as though no deposit had occurred pursuant to Section 8.02 or 8.03 hereof until such time as the Trustee or Paying Agent is permitted to apply all such money in accordance with Section 8.02 or 8.03 hereof, as the case may be; *provided, however*, that, if the Company makes any payment of principal of, premium, if any, or interest on, any Note following the reinstatement of its obligations, the Company will be subrogated to the rights of the Holders of such Notes to receive such payment from the money held by the Trustee or Paying Agent.

**ARTICLE 9  
AMENDMENT, SUPPLEMENT AND WAIVER**

**Section 9.01 Without Consent of Holders of Notes.**

Notwithstanding Section 9.02 of this Indenture, the Company and the Trustee may amend or supplement this Indenture or the Notes of one or more Series without the consent of any Holder of Note:

(a) to cure any ambiguity or to correct or supplement any provision contained herein or in any supplemental indenture that may be defective or inconsistent with any other provision contained herein or in any supplemental indenture, or to conform the provisions of this Indenture to the description of the Notes contained in the prospectus or other offering document pursuant to which the Notes of one or more Series were sold, as evidenced by an Officer's Certificate stating that such text constitutes an unintended conflict with the description of the corresponding provision in the offering document;

(b) to provide for uncertificated Notes in addition to or in place of certificated Notes;

(c) to provide for the assumption of the Company's obligations to the Holders of the Notes by a successor to the Company pursuant to Article 5 hereof;

(d) to make any change that would provide any additional rights or benefits to the Holders of all or any Series of Notes or that does not adversely affect the rights hereunder of any Holder in any material respect, as evidenced by an Officer's Certificate;

- (e) to comply with requirements of the SEC in order to effect or maintain the qualification of this Indenture under the TIA;
- (f) to provide for the issuance of and establish the form and terms and conditions of Notes of any Series as permitted by this Indenture;
- (g) to add guarantees with respect to the Notes of any Series or to provide security for the Notes of any Series; or

(h) to evidence and provide for the acceptance of appointment hereunder by a successor Trustee with respect to the Notes of one or more Series and to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee.

Upon the request of the Company accompanied by a Board Resolution authorizing the execution of any such amended or supplemental indenture, and upon receipt by the Trustee of the documents described in Section 7.02 hereof, the Trustee will join with the Company in the execution of any amended or supplemental indenture authorized or permitted by the terms of this Indenture and to make any further appropriate agreements and stipulations that may be therein contained, but the Trustee will not be obligated to enter into such amended or supplemental indenture that affects its own rights, duties or immunities under this Indenture or otherwise.

**Section 9.02 With Consent of Holders of Notes.**

The Company and the Trustee may enter into a supplemental indenture with the written consent of the Holders of at least a majority in aggregate principal amount of the outstanding Notes of each Series affected by such supplemental indenture (including consents obtained in connection with a tender offer or exchange offer for the Notes of such Series), for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner the rights of the Holders of Notes of each such Series. Except as otherwise provided herein, the Holders of at least a majority in aggregate principal amount of the outstanding Notes of each Series, by notice to the Trustee (including consents obtained in connection with a tender offer or exchange offer for the Notes of such Series) may waive compliance by the Company with any provision of this Indenture or the Notes with respect to such Series.

It shall not be necessary for the consent of the Holders of Notes under this Section 9.02 to approve the particular form of any proposed supplemental indenture or waiver, but it shall be sufficient if such consent approves the substance thereof. Upon the request of the Company accompanied by a resolution of its Board of Directors authorizing the execution of any such amended or supplemental indenture, and upon the filing with the Trustee of evidence satisfactory to the Trustee of the consent of the Holders of Notes as aforesaid, and upon receipt by the Trustee of the documents described in Section 7.02 hereof, the Trustee will join with the Company in the execution of such amended or supplemental indenture unless such amended or supplemental indenture directly affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion, but will not be obligated to, enter into such amended or supplemental Indenture.

After a supplemental indenture or waiver under this section becomes effective, the Company shall mail to the Holders of Notes affected thereby a notice briefly describing the supplemental indenture or waiver. Any failure by the Company to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture or waiver. However, without the consent of each Holder affected, an amendment or waiver under this Section 9.02 may not, with respect to any Notes held by a non-consenting Holder:

(a) reduce the principal amount, any premium or change the Stated Maturity of any Note or alter or waive any of the provisions with respect to the redemption or repurchase of the Notes;

(b) reduce the rate (or alter the method of computation) of or extend the time for payment of interest, including defaulted interest, on any Note;

(c) waive a Default or Event of Default in the payment of principal of or premium, if any, or interest on the Notes, except a rescission of acceleration of the Notes by the Holders of at least a majority in aggregate principal amount of the then outstanding Notes of such Series with respect to a nonpayment default and a waiver of the payment default that resulted from such acceleration;

(d) make the principal of or premium, if any or interest on any Note payable in currency other than that stated in the Notes;

(e) change any place of payment where the Notes of any series or interest thereon is payable;

(f) make any change in the provisions of this Indenture relating to waivers of past Defaults or the rights of Holders of the Notes to receive payments of principal of or premium, interest, if any, on the Notes and to institute suit for the enforcement of any such payments;

(g) make any change in the foregoing amendment and waiver provisions; or

(h) reduce the percentage in principal amount of any Notes, the consent of the Holders of which is required for any of the foregoing modifications or otherwise necessary to modify or amend this Indenture or to waive any past Defaults.

**Section 9.03 Compliance with Trust Indenture Act.**

Every amendment to this Indenture or the Notes of one or more Series will be set forth in a supplemental indenture hereto that complies with the TIA as then in effect.

**Section 9.04 Revocation and Effect of Consents.**

Until an amendment or waiver becomes effective, a consent to it by a Holder of a Note is a continuing consent by the Holder of a Note and every subsequent Holder of a Note or portion of a Note that evidences the same debt as the consenting Holder's Note, even if notation of the consent is not made on any Note. However, any such Holder of a Note or subsequent Holder of a Note may revoke the consent as to its Note if the Trustee receives written notice of revocation before the date the amendment or waiver becomes effective. An amendment or waiver becomes effective in accordance with its terms and thereafter binds every Holder.



**Section 9.05 Notation on or Exchange of Notes.**

The Trustee may place an appropriate notation about an amendment or waiver on any Note of any Series thereafter authenticated. The Company in exchange for Notes of that Series may issue and the Trustee shall authenticate upon request new Notes of that Series that reflect the amendment or waiver.

Failure to make the appropriate notation or issue a new Note will not affect the validity and effect of such amendment or waiver.

**Section 9.06 Trustee to Sign Amendments, etc.**

In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modifications thereby of the trusts created by this Indenture, the Trustee shall be entitled to receive, and (subject to Section 7.01) shall be fully protected in relying upon, an Officer's Certificate and an Opinion of Counsel stating that the execution of such supplemental indenture is authorized or permitted by this Indenture, and an Opinion of Counsel stating that it will be the legal, valid and binding upon the Company in accordance with its terms, subject to customary exceptions. The Trustee shall sign all supplemental indentures, except that the Trustee need not sign any supplemental indenture that adversely affects its rights.

**ARTICLE 10  
SATISFACTION AND DISCHARGE**

**Section 10.01 Satisfaction and Discharge.**

This Indenture will be discharged and will cease to be of further effect as to a Series of Notes issued hereunder, when:

(a) either:

(1) all such Notes that have been authenticated, except lost, stolen or destroyed Notes that have been replaced or paid and Notes for whose payment money has theretofore been deposited in trust and thereafter repaid to the Company, have been delivered to the Trustee for cancellation; or

(2) all such Notes that have not been delivered to the Trustee for cancellation have become due and payable by reason of the sending of a notice of redemption or otherwise or will become due and payable within one year and the Company has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust solely for the benefit of the Holders of such Notes, cash in U.S. dollars, non-callable Government Securities, or a combination thereof, in such amounts as will be sufficient, without consideration of any reinvestment of interest, to pay and discharge the entire Indebtedness on the Notes not delivered to the Trustee for cancellation for principal, premium, if any, and accrued interest to the date of maturity or redemption;

(b) no Default or Event of Default has occurred and is continuing on the date of such deposit (other than a Default or Event of Default resulting from the borrowing of funds to be applied to such deposit) and the deposit will not result in a breach or violation of, or constitute a default under, any other material instrument to which the Company or any guarantor, as applicable, is a party or by which the Company, or any guarantor, as applicable, is bound;

(c) the Company or any guarantor of such Notes has paid or caused to be paid all sums payable by it under this Indenture; and

(d) the Company has delivered irrevocable instructions to the Trustee under this Indenture to apply the deposited money toward the payment of the Notes at maturity or on the redemption date, as the case may be.

In addition, the Company must deliver an Officer's Certificate and an Opinion of Counsel to the Trustee stating that all conditions precedent to satisfaction and discharge have been satisfied.

Notwithstanding the satisfaction and discharge of this Indenture, if money has been deposited with the Trustee pursuant to subclause (2) of clause (a) of this Section 10.01, the provisions of Sections 10.02 and 8.06 hereof will survive. In addition, nothing in this Section 10.01 will be deemed to discharge those provisions of Section 7.07 hereof, that, by their terms, survive the satisfaction and discharge of this Indenture. After the conditions to discharge contained in this Article Ten have been satisfied, and the Company has paid or caused to be paid all other sums payable hereunder by the Company, and delivered to the Trustee an Officer's Certificate and Opinion of Counsel, each stating that all conditions precedent to satisfaction and discharge have been satisfied, the Trustee upon Company request shall acknowledge in writing the discharge of the obligations of the Company (except for those surviving obligations specified in this Section 10.01 and the rights, powers, trusts, duties and immunities of the Trustee hereunder and the Company's obligations in connection therewith).

**Section 10.02 *Application of Trust Money.***

Subject to the provisions of Section 8.06 hereof, all money deposited with the Trustee pursuant to Section 10.01 hereof shall be held in trust and applied by it, in accordance with the provisions of the Notes with respect to which such deposit was made and this Indenture, to the payment, either directly or through any Paying Agent (including the Company acting as its own Paying Agent) as the Trustee may determine, to the Persons entitled thereto, of the principal (and premium, if any) and interest for whose payment such money has been deposited with the Trustee; but such money need not be segregated from other funds except to the extent required by law.

If the Trustee or Paying Agent is unable to apply any money or Government Securities in accordance with Section 10.01 hereof by reason of any legal proceeding or by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, the Company's and any applicable guarantor's obligations under this Indenture and the applicable Notes shall be revived and reinstated as though no deposit had occurred pursuant to Section 10.01 hereof; *provided* that if the Company has made any payment of principal of, premium, if any, or interest on, any Notes because of the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such Notes to receive such payment from the money or Government Securities held by the Trustee or Paying Agent.

**ARTICLE 11**  
**MISCELLANEOUS**

**Section 11.01 *Trust Indenture Act Controls.***

If any provision of this Indenture limits, qualifies or conflicts with the duties imposed by TIA § 318(c), the imposed duties will control.

**Section 11.02 *Notices.***

Any notice or communication by the Company or the Trustee to the others is duly given if in writing and delivered in Person or by first class mail (registered or certified, return receipt requested), facsimile transmission or overnight air courier guaranteeing next day delivery, to the others' address:

If to the Company:       FibroBiologics, Inc.  
455 E. Medical Center Blvd. Suite 300  
Houston, Texas 77598  
Attention: Legal Department  
e-mail: legal@fibrobiologics.com  
Telephone No.: (281) 671-5150

With a copy to:         Jones Day  
  
1755 Embarcadero Road  
Palo Alto, California 94303  
Attention: Jeremy Cleveland, Esq.  
e-mail: jcleland @jonesday.com  
Telephone No.: (650) 687-4173

If to the Trustee:       [●]  
e-mail:  
Telephone No.:

The Company or the Trustee, by notice to the others, may designate additional or different addresses for subsequent notices or communications.

All notices and communications (other than those sent to Holders) will be deemed to have been duly given: at the time delivered by hand, if personally delivered; five Business Days after being deposited in the mail, postage prepaid, if mailed; when receipt acknowledged, if transmitted by facsimile; and the next Business Day after timely delivery to the courier, if sent by overnight air courier guaranteeing next day delivery.

Any notice or communication to a Holder will be mailed by first class mail, certified or registered, return receipt requested, or by overnight air courier guaranteeing next day delivery to its address shown on the register kept by the Registrar. Any notice or communication will also be so mailed to any Person described in TIA § 313(c), to the extent required by the TIA. Failure to mail a notice or communication to a Holder or any defect in it will not affect its sufficiency with respect to other Holders. Notwithstanding any other provision of this Indenture or any Global Note, where this Indenture or any Global Note provides for notice of any event (including any notice of redemption or repurchase) to a Holder of a Global Note (whether by mail or otherwise), such notice shall be sufficiently given if given to the Depositary (or its designee) pursuant to the Applicable Procedures, including by electronic mail in accordance with the standing instructions from the Depositary.

If a notice or communication is mailed in the manner provided above within the time prescribed, it is duly given, whether or not the addressee receives it.

If the Company mails a notice or communication to Holders, it will mail a copy to the Trustee and each Agent at the same time.

The Trustee agrees to accept and act upon instructions or directions pursuant to this Indenture sent by unsecured e-mail, pdf, facsimile transmission or other similar unsecured electronic methods; *provided, however*, that (a) the party providing such written instructions, subsequent to such transmission of written instructions, shall provide the originally executed instructions or directions to the Trustee in a timely manner, and (b) such originally executed instructions or directions shall be signed by an authorized representative of the party providing such instructions or directions. If the party elects to give the Trustee e-mail or facsimile instructions (or instructions by a similar electronic method) and the Trustee in its discretion elects to act upon such instructions, the Trustee's understanding of such instructions shall be deemed controlling. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's reliance upon and compliance with such instructions notwithstanding such instructions conflict or are inconsistent with a subsequent written instruction. The party providing electronic instructions agrees to assume all risks arising out of the use of such electronic methods to submit instructions and directions to the Trustee, including without limitation the risk of the Trustee acting on unauthorized instructions, and the risk of interception and misuse by third parties.

**Section 11.03 *Communication by Holders of Notes with Other Holders of Notes.***

Holders may communicate pursuant to TIA § 312(b) with other Holders with respect to their rights under this Indenture or the Notes. The Company, the Trustee, the Registrar and anyone else shall have the protection of TIA § 312(c).

**Section 11.04 Certificate and Opinion as to Conditions Precedent.**

Upon any request or application by the Company to the Trustee to take any action under this Indenture, the Company shall furnish to the Trustee (except that in the case of any such application or request as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or request, no additional certificate or opinion need be furnished):

(1) an Officer's Certificate stating that, in the opinion of the signers (who may rely upon an Opinion of Counsel as to matters of law), all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been satisfied; and

(2) an Opinion of Counsel stating that, in the opinion of such counsel (who may rely upon an Officer's Certificate as to matters of fact), all such conditions precedent and covenants have been satisfied.

**Section 11.05 Statements Required in Certificate or Opinion.**

Each certificate or opinion with respect to compliance with a condition or covenant provided for in this Indenture (other than a certificate provided pursuant to TIA § 314(a)(4)) must comply with the provisions of TIA § 314(e) and must include:

(1) a statement that the Person making such certificate or opinion has read such covenant or condition;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(3) a statement that, in the opinion of such Person, he or she has made such examination or investigation as is necessary to enable him or her to express an informed opinion as to whether or not such covenant or condition has been satisfied; and

(4) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been satisfied.

**Section 11.06 Rules by Trustee and Agents.**

Holders may make reasonable rules for action by or at a meeting of Holders. The Registrar or Paying Agent may make reasonable rules and set reasonable requirements for its functions.

**Section 11.07 Calculation of Foreign Currency Amounts.**

The calculation of the U.S. dollar equivalent amount for any amount denominated in a foreign currency shall be the noon buying rate in the City of New York as certified by the Federal Reserve Bank of New York on the date on which such determination is required to be made or, if such day is not a day on which such rate is published, the rate most recently published prior to such day.

**Section 11.08 *No Personal Liability of Directors, Officers, Employees and Shareholders.***

No past, present or future director, officer, employee, incorporator or shareholder of the Company, as such, will have any liability for any obligations of the Company under the Notes, this Indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder of Notes by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. The waiver may not be effective to waive liabilities under the federal securities laws.

**Section 11.09 *Governing Law.***

THE INTERNAL LAW OF THE STATE OF NEW YORK WILL GOVERN AND BE USED TO CONSTRUE THIS INDENTURE, THE NOTES, AND THE GUARANTEES, IF ANY, WITHOUT GIVING EFFECT TO APPLICABLE PRINCIPLES OF CONFLICTS OF LAW TO THE EXTENT THAT THE APPLICATION OF THE LAWS OF ANOTHER JURISDICTION WOULD BE REQUIRED THEREBY.

**Section 11.10 *No Adverse Interpretation of Other Agreements.***

This Indenture may not be used to interpret any other indenture, loan or debt agreement of the Company or its Subsidiaries or of any other Person. Any such indenture, loan or debt agreement may not be used to interpret this Indenture.

**Section 11.11 *Successors.***

All agreements of the Company in this Indenture and the Notes will bind its successors. All agreements of the Trustee in this Indenture will bind its successors.

**Section 11.12 *Severability.***

In case any provision in this Indenture or in the Notes is invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions will not in any way be affected or impaired thereby.

**Section 11.13 *Counterpart Originals.***

The parties may sign any number of copies of this Indenture. Each signed copy will be an original, but all of them together represent the same agreement. The exchange of copies of this Indenture and of signature pages by facsimile or PDF transmission shall constitute effective execution and delivery of this Indenture as to the parties hereto and may be used in lieu of the original Indenture for all purposes. Signatures of the parties hereto transmitted by facsimile or PDF shall be deemed to be their original signatures for all purposes.

**Section 11.14 *Table of Contents, Headings, etc.***

The Table of Contents, Cross-Reference Table and Headings of the Articles and Sections of this Indenture have been inserted for convenience of reference only, are not to be considered a part of this Indenture and will in no way modify or restrict any of the terms or provisions hereof.

**Section 11.15 Waiver of Jury Trial**

EACH OF THE COMPANY AND THE TRUSTEE HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS INDENTURE, THE NOTES OR THE TRANSACTIONS CONTEMPLATED HEREBY.

**Section 11.16 Patriot Act Compliance**

The parties hereto acknowledge that in accordance with Section 326 of the USA Patriot Act the Trustee, like all financial institutions and in order to help fight the funding of terrorism and money laundering, is required to obtain, verify, and record information that identifies each person or legal entity that establishes a relationship or opens an account, which information includes the name, address, tax identification number and formation documents and other information that will allow Trustee to identify the person or legal entity in accordance with the USA Patriot Act. The parties to this Agreement agree that they will provide the Trustee with such information in order for the Trustee to satisfy the requirements of the USA Patriot Act.

**Section 11.17 Foreign Account Tax Compliance Act (FATCA)**

In order to comply with applicable tax laws, rules and regulations (inclusive of directives, guidelines and interpretations promulgated by competent authorities) in effect from time to time ("Applicable Law") to which a foreign financial institution, issuer, trustee, paying agent, holder or other institution is or has agreed to be subject related to this Indenture, the Company agrees (i) to provide to the Trustee sufficient information about Holders or other applicable parties and/or transactions (including any modification to the terms of such transactions) so as to enable the Trustee to determine whether it has tax related obligations under Applicable Law and (ii) that the Trustee shall be entitled to make any withholding or deduction from payments under this Indenture to the extent necessary to comply with Applicable Law for which the Trustee shall not have any liability. The terms of this section shall survive the termination of this Indenture.

[Signatures on following page]

**SIGNATURES**

Dated as of [●]

**FIBROBIOLOGICS, INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**[●], as Trustee**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

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## JONES DAY

SILICON VALLEY OFFICE • 1755 EMBARCADERO ROAD • PALO ALTO, CALIFORNIA 94303  
TELEPHONE: +1.650.739.3939 • JONESDAY.COM

February 3, 2025

FibroBiologics, Inc.  
455 E. Medical Center Blvd., Suite 300  
Houston, Texas 77598

Re: Registration Statement on Form S 3 Filed by FibroBiologics, Inc.

Ladies and Gentlemen:

We have acted as counsel for FibroBiologics, Inc., a Delaware corporation (the “*Company*”), in connection with the authorization of the possible issuance and sale from time to time, on a delayed basis, by the Company of up to \$50,000,000 in initial aggregate offering price of: (i) shares of common stock, par value \$0.00001 per share, of the Company (the “*Common Stock*”); (ii) shares of preferred stock, par value \$0.00001 per share, of the Company (the “*Preferred Stock*”), in one or more series, certain of which may be convertible into or exchangeable for shares of Common Stock; (iii) debt securities of the Company (the “*Debt Securities*”), in one or more series, certain of which may be convertible into or exchangeable for shares of Common Stock; (iv) depositary shares representing fractional interests in shares of Preferred Stock (the “*Depositary Shares*”); (v) contingent value rights (“*CVRs*”); (vi) warrants to purchase shares of Common Stock, Preferred Stock, Depositary Shares, Debt Securities or CVRs or any combination thereof (the “*Warrants*”); (vii) subscription rights to purchase shares of Common Stock, Preferred Stock, Depositary Shares, Debt Securities or CVRs or any combination thereof (the “*Subscription Rights*”); (viii) purchase contracts (the “*Purchase Contracts*”) to purchase securities at a future date or dates; and (ix) units consisting of one or more of the securities described in clauses (i) through (viii) above (the “*Units*”), in each case as contemplated by the Company’s Registration Statement on Form S-3 to which this opinion is filed as an exhibit (as the same may be amended from time to time, the “*Registration Statement*”). The Common Stock, the Preferred Stock, the Debt Securities, the Depositary Shares, the CVRs, the Warrants, the Subscription Rights, the Purchase Contracts and the Units are collectively referred to herein as the “*Securities*.” The Securities may be offered and sold from time to time pursuant to Rule 415 under the Securities Act of 1933 (the “*Securities Act*”).

In connection with the opinions expressed herein, we have examined such documents, records and matters of law as we have deemed relevant or necessary for purposes of this opinion. Based on the foregoing and subject to the further assumptions, qualifications and limitations set forth herein, we are of the opinion that:

AMSTERDAM • ATLANTA • BEIJING • BOSTON • BRISBANE • BRUSSELS • CHICAGO • CLEVELAND • COLUMBUS • DALLAS DETROIT • DUBAI • DÜSSELDORF • FRANKFURT • HONG KONG • HOUSTON • IRVINE • LONDON • LOS ANGELES • MADRID MELBOURNE • MEXICO CITY • MIAMI • MILAN • MINNEAPOLIS • MUNICH • NEW YORK • PARIS • PERTH • PITTSBURGH SAN DIEGO • SAN FRANCISCO • SÃO PAULO • SHANGHAI • SILICON VALLEY • SINGAPORE • SYDNEY • TAIPEI • TOKYO • WASHINGTON

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February 3, 2025

Page 2

The shares of Common Stock, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will be validly issued, fully paid and nonassessable.

The shares of Preferred Stock, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will be validly issued, fully paid and nonassessable.

The Debt Securities, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

The Depositary Shares, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will be validly issued, and the depositary receipts representing the Depositary Shares will entitle the holders thereof to the rights specified therein and in the deposit agreement pursuant to which they are issued.

The Warrants, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

The Subscription Rights, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

The CVRs, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

The Purchase Contracts, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

The Units, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

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In rendering the foregoing opinions, we have assumed that: (i) the Registration Statement, and any amendments thereto, will have become effective (and will remain effective at the time of issuance of any Securities thereunder); (ii) a prospectus supplement describing each class and/or series of Securities offered pursuant to the Registration Statement, to the extent required by applicable law and relevant rules and regulations of the Securities and Exchange Commission (the “*Commission*”), will be timely filed with the Commission; (iii) the definitive terms of each class and/or series of Securities will have been established in accordance with the authorizing resolutions adopted by the Company’s Board of Directors (or an authorized committee thereof), the Company’s Amended and Restated Certificate of Incorporation (the “*Certificate of Incorporation*”) and applicable law; (iv) the Company will issue and deliver the Securities in the manner contemplated by the Registration Statement and any Securities that consist of shares of capital stock will have been authorized and reserved for issuance, in each case within the limits of the then remaining authorized but unissued and unreserved amounts of such capital stock; (v) the resolutions authorizing the Company to issue, offer and sell the Securities will have been adopted by the Company’s Board of Directors (or an authorized committee thereof) and will be in full force and effect at all times at which the Securities are offered or sold by the Company; (vi) all Securities will be issued in compliance with applicable federal and state securities laws and (vii) the Indenture and any Deposit Agreement, CVR Agreement, Warrant Agreement, Subscription Rights Agreement, Purchase Contract Agreement (each as defined below), Purchase Contract or Unit agreement will be governed by and construed in accordance with the laws of the State of New York and will constitute a valid and binding obligation of each party thereto other than the Company.

With respect to any Securities consisting of Preferred Stock, we have further assumed that the Company will issue and deliver the shares of the Preferred Stock being issued and delivered after either (i) the filing with the Secretary of State of the State of Delaware of a certificate of designation to the Certificate of Incorporation or (ii) the adoption by the Company’s Board of Directors of a resolution or resolutions, in each case, in a form approved by us, establishing the designations, preferences and rights of the class or series of the Preferred Stock being issued and delivered.

With respect to any Securities consisting of any series of Debt Securities, we have further assumed that (i) an indenture with respect to such Debt Securities will have been authorized, executed and delivered by the Company and the applicable trustee in a form approved by us (the “*Indenture*”), and the Indenture will have been qualified under the Trust Indenture Act of 1939; (ii) all terms of such Debt Securities not provided for in the applicable Indenture will have been established in accordance with the provisions of the Indenture and reflected in appropriate documentation approved by us and, if applicable, executed and delivered by the Company and the trustee; and (iii) such Debt Securities will be executed, authenticated, issued and delivered in accordance with the provisions of the Indenture.

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With respect to any Securities consisting of Depositary Shares, we have further assumed that the Depositary Shares will be: (i) issued and delivered after authorization, execution and delivery of the deposit agreement, approved by us, relating to the Depositary Shares to be entered into between the Company and an entity (the “**Depositary**”) selected by the Company to act as depositary (the “**Deposit Agreement**”) and (ii) issued after the Company deposits with the Depositary shares of the Preferred Stock to be represented by such Depositary Shares that are authorized, validly issued, fully paid and nonassessable as contemplated by the Registration Statement and the Deposit Agreement.

With respect to any Securities consisting of CVRs, we have assumed that: (i) the CVR agreement, approved by us, relating to the CVRs (the “**CVR Agreement**”), to be entered into between the Company and an entity selected by the Company to act as trustee, agent or representative of the CVR holders (the “**CVR Agreement Counterparty**”), will have been authorized, executed and delivered by the Company and the CVR Counterparty, and (ii) the CVRs will be authorized, executed and delivered by the Company and the CVR Agreement Counterparty in accordance with the provisions of the CVR Agreement.

With respect to any Securities consisting of Warrants, we have further assumed that: (i) the warrant agreement, approved by us, relating to the Warrants (the “**Warrant Agreement**”) to be entered into between the Company and an entity selected by the Company to act as the warrant agent (the “**Warrant Agent**”) will have been authorized, executed and delivered by the Company and the Warrant Agent and (ii) the Warrants will be authorized, executed and delivered by the Company and the Warrant Agent in accordance with the provisions of the Warrant Agreement.

With respect to any Securities consisting of Subscription Rights, we have further assumed that: (i) the subscription rights agreement, approved by us, relating to the Subscription Rights (the “**Subscription Rights Agreement**”) to be entered into between the Company and an entity selected by the Company to act as the subscription rights agent (the “**Subscription Rights Agent**”) will have been authorized, executed and delivered by the Company and the Subscription Rights Agent and (ii) the Subscription Rights will be authorized, executed and delivered by the Company and the Subscription Rights Agent in accordance with the provisions of the Subscription Rights Agreement.

With respect to any Securities consisting of Purchase Contracts, we have further assumed that: (i) the purchase contract agreement, approved by us, relating to the Purchase Contracts (the “**Purchase Contract Agreement**”) to be entered into between the Company and an entity selected by the Company to act as the purchase contract agent (the “**Purchase Contract Agent**”) will have been authorized, executed and delivered by the Company and the Purchase Contract Agent and (ii) the Purchase Contracts will be authorized, executed and delivered by the Company and the Purchase Contract Agent in accordance with the provisions of the Purchase Contract Agreement.

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With respect to any Securities consisting of Units, we have further assumed that each component of such Unit will be authorized, validly issued, fully paid and nonassessable (to the extent applicable) and will constitute a valid and binding obligation of the Company or any third party (to the extent applicable) as contemplated by the Registration Statement and the applicable Unit agreement, if any.

The opinions expressed herein are limited by bankruptcy, insolvency, reorganization, fraudulent transfer and fraudulent conveyance, voidable preference, moratorium or other similar laws and related regulations and judicial doctrines from time to time in effect relating to or affecting creditors' rights generally, and by general equitable principles and public policy considerations, whether such principles and considerations are considered in a proceeding at law or at equity.

As to facts material to the opinions and assumptions expressed herein, we have relied upon oral or written statements and representations of officers and other representatives of the Company and others. The opinions expressed herein are limited to the General Corporation Law of the State of Delaware and the laws of the State of New York, in each case as currently in effect, and we express no opinion as to the effect of the laws of any other jurisdiction.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to Jones Day under the caption "Legal Matters" in the prospectus constituting a part of the Registration Statement. In giving such consent, we do not thereby admit that we are included in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Jones Day

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement on Form S-3 of our report dated February 29, 2024, relating to the financial statements of FibroBiologics, Inc. as of and for the years ended December 31, 2023 and 2022, which is incorporated by reference in that Prospectus.

We also consent to the reference to our firm under the caption “Experts” in the Prospectus.

/s/ WithumSmith+Brown, PC

East Brunswick, New Jersey  
February 3, 2025

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Calculation of Filing Fee Tables

Form S-3  
(Form Type)

FibroBiologics, Inc.  
(Exact Name of Registrant as Specified in its Charter)

Table 1 - Newly Registered and Carry Forward Securities

Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee	Carry Forward Form Type	Carry Forward File Number	Carry Forward Initial Effective Date	Filing Fee Previously Paid In Connection with Unsold Securities to be Carried Forward
<b>Newly Registered Securities</b>											
Fees to Be Paid	Equity	Common Stock, par value \$0.00001 per share	457(o)	(2) (3)	(3)	(3)					
	Equity	Preferred Stock, par value \$0.00001 per share	457(o)	(2) (3)	(3)	(3)					
	Equity	Depository Shares	457(o)	(2) (3)	(3)	(3)					
	Other	Warrants	457(o)	(2) (3)	(3)	(3)					
	Other	Subscription Rights	457(o)	(2) (3)	(3)	(3)					
	Other	Contingent Value Rights	457(o)	(2) (3)	(3)	(3)					
	Debt	Securities	457(o)	(2) (3)	(3)	(3)					
	Other	Purchase Contracts	457(o)	(2) (3)	(3)	(3)					
	Other	Units(1)	457(o)	(2) (3)	(3)	(3)					
	Unallocated (Universal) Shelf	-	457(o)	(2) (3)	(3)	\$ 50,000,000	\$153.10 per \$1,000,000	\$	7,655		
Fees Previously Paid	-	-	-	-	-	-	-	-	-	-	-
<b>Carry Forward Securities</b>											
Carry Forward Securities	-	-	-	-	-	-	-	-	-	-	-
<b>Total Offering Amounts</b>					\$ 50,000,000		\$	7,655			
<b>Total Fees Previously Paid</b>							\$	-			
<b>Total Fee Offsets</b>							\$	2,877.72			
<b>Net Fee Due</b>							\$	4,777.28			

Table 2 – Fee Offset Claims and Sources

Registrant or Filer Name	Form or Filing Type	File Number	Initial Filing Date	Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source	
<b>Rule 457(p)</b>											
Fee Offset Claims	FibroBiologics, Inc.	S-1	333-277019(4)	February 12, 2024	March 15, 2024	\$ 2,877.72	Equity	Shares of Common Stock, par value \$0.00001 per share,	1,299,783	\$ 19,496,745	-

Fees Offset Sources	FibroBiologics, Inc.	S-1	333-277019(4)	February 12, 2024	March 15, 2024					underlying warrants	
						-	-	-	-	-	\$2,877.72

- (1) Consisting of some or all of the securities listed above, in any combination.
- (2) There is being registered hereunder an indeterminate (a) number of shares of common stock, (b) number of shares of preferred stock, (c) number of depositary shares to be evidenced by depositary receipts issued pursuant to a deposit agreement, (d) number of warrants that may represent the right to purchase shares of common stock, shares of preferred stock, depositary shares, contingent value rights or debt securities, (e) number of subscription rights that may represent a right to purchase shares of common stock, shares of preferred stock, depositary shares, contingent value rights or debt securities, (f) number of contingent value rights that represent a right to potential cash payment upon the satisfaction of one or more conditions set forth in a contingent value rights agreement, (g) principal amount of debt securities, (h) number of purchase contracts and (i) number of units that will be issued under a unit agreement and will represent an interest in a combination of one or more of the securities registered hereunder. If the registrant elects to offer to the public fractional interests in shares of preferred stock, then depositary receipts will be distributed to those persons purchasing the fractional interests and the shares of preferred stock will be issued to the depositary under the deposit agreement. The securities registered also include such indeterminate amount of securities as may be issued in exchange for, or upon conversion or exercise of, as the case may be, the preferred stock, depositary shares, warrants or subscription rights registered hereunder or pursuant to the antidilution provisions of any such securities. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. No separate consideration will be received for any securities registered hereunder that are issued in exchange for, or upon conversion of, as the case may be, the preferred stock, depositary shares, warrants or subscription rights. In no event will the aggregate offering price of all types of securities issued by the registrant pursuant to this registration statement exceed \$50,000,000. If any debt securities are issued at an original issue discount, then the principal amount of such debt securities shall be in such greater amount as shall result in an aggregate initial offering price not to exceed \$50,000,000, less the aggregate dollar amount of all securities previously issued hereunder. Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers such indeterminate number of securities as may be issuable with respect to the securities being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (3) The amount registered, the proposed maximum offering price per unit and the maximum aggregate offering price for each class of security will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered hereunder and are not specified as to each class of security pursuant to Instructions 2.A.ii.b. and 2.A.iii.b. to the Calculation of Filing Fee Tables and Related Disclosure under Item 16(b) of Form S-3 under the Securities Act.
- (4) On January 17, 2025, FibroBiologics, Inc. (the "Company") filed a Post-Effective Amendment No. 1 to the registration statement on Form S-1 (File No. 333-277019) (the "S-1 Registration Statement") to terminate the effectiveness of the S-1 Registration Statement and to remove from registration all securities registered but not sold under the S-1 Registration Statement. Pursuant to Rule 457(p) under the Securities Act, the Company is offsetting \$2,877.72 of the fee previously paid by the Company in connection with the S-1 Registration Statement associated with unsold securities.