

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

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

HARVARD BIOSCIENCE, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

04-3306140
(I.R.S. Employer
Identification Number)

**84 October Hill Road, Holliston, Massachusetts 01746-1371
(508) 893-8999**
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**James Green
Chief Executive Officer
Harvard Bioscience, Inc.
84 October Hill Road, Holliston, Massachusetts 01746-1371
(508) 893-8999**
(Name, address, including zip code, and telephone number, including area code, of agent for service)

With copies to:

**Mark J. Mihanovic, Esq.
Daniel L. Woodard, Esq.
McDermott Will & Emery LLP
650 Live Oak Avenue, Suite 300
Menlo Park, CA 94025
(650) 815-7400**

Approximate date of commencement of proposed sale to the public: **From time to time after the effective date hereof.**

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, 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 filed 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	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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.

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, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission of which this prospectus is part is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED DECEMBER 6, 2024

PROSPECTUS

\$100,000,000



HARVARD BIOSCIENCE, INC.

**Common Stock
Preferred Stock
Warrants
Units**

We may, from time to time, offer and sell up to \$100,000,000 in any combination of the securities described in this prospectus in one or more offerings. We may offer these securities separately or together in units. We may also offer securities as may be issuable upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable anti-dilution provisions.

This prospectus provides a general description of the securities we may offer. Each time we offer securities, we will specify in an accompanying prospectus supplement the terms of the securities being offered. We may sell these securities to or through underwriters and also to other purchasers or through agents. We will set forth the names of any underwriters or agents, and any fees, commissions or discount arrangements, in the accompanying prospectus supplement. We may not sell any securities under this prospectus without delivery of the applicable prospectus supplement.

You should read this document and any prospectus supplement or amendment carefully before you invest in our securities.

Our common stock is listed on the Nasdaq Stock Market LLC under the symbol "HBIO." On December 3, 2024, the closing price for our common stock was \$2.24 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing on the Nasdaq Stock Market LLC or any other securities market or exchange of the securities, if any, covered by the applicable prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" contained in this prospectus beginning on page 4 and any similar section contained in any amendment or the applicable prospectus supplement and under similar headings in the other documents that are incorporated by reference into this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS ACCURATE, TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is , 2024.

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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, utilizing a shelf registration process. Under the shelf registration statement of which this prospectus is a part, we may from time to time in one or more offerings offer shares of our common stock and preferred stock, warrants to purchase any of such securities and units comprised of any such securities with a total value of up to \$100,000,000 at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer.

Each time we offer a type or series of securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. Such prospectus supplement may include a discussion of risks or other special considerations applicable to us or the offered securities. A prospectus supplement may also add, update or change information in this prospectus or in documents we have incorporated by reference herein. If there is any inconsistency between the information in this prospectus and any applicable prospectus supplement, you must rely on the information in the prospectus supplement. Please carefully read both this prospectus and any applicable prospectus supplement together with the information incorporated herein by reference as described in the section titled "Incorporation of Certain Information by Reference," before investing in any of the securities offered.

We have not authorized any broker-dealer, salesperson or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and any accompanying supplement to this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or an accompanying prospectus supplement. This prospectus and any accompanying supplement to this prospectus do not constitute an offer to sell or the solicitation of an offer to buy securities other than the registered securities to which they relate, nor do this prospectus and any accompanying supplement to this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation.

The information contained in this prospectus and an accompanying prospectus supplement speaks only as of the date set forth on the applicable cover page and may not reflect subsequent changes in our business, financial condition, results of operations and prospects even though this prospectus and any accompanying prospectus supplement is delivered or securities are sold on a later date.

This prospectus and the information incorporated herein by reference contain summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below in the section titled "Where You Can Find Additional Information."

All references to "Company" "we," "our" or "us" refer solely to Harvard Bioscience, Inc. and its subsidiaries and not to the persons who manage us or serve on our Board of Directors (the "Board").

"Harvard" is a registered trademark of Harvard University. The marks "Harvard Apparatus" and "Harvard Bioscience" are being used pursuant to a license agreement entered into in December 2002 between us and Harvard University. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. All trademarks, service marks and trade names included or incorporated by reference in this prospectus are the property of the respective owners.

PROSPECTUS SUMMARY

The following summary highlights information contained elsewhere in this prospectus. It may not contain all of the information that is important to you. You should carefully read the entire prospectus and the applicable prospectus supplement, especially the discussion regarding the risks of investing in our securities under the heading "Risk Factors" contained in the applicable prospectus supplement and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

Overview

Harvard Bioscience, Inc., a Delaware corporation, is a leading developer, manufacturer and seller of technologies, products and services that enable fundamental advances in life science applications, including research, pharmaceutical and therapy discovery, bioproduction and preclinical testing for pharmaceutical and therapy development. Our products and services are sold to customers ranging from renowned academic institutions and government laboratories to the world's leading pharmaceutical, biotechnology and contract research organizations ("CROs"). With operations in the United States, Europe and China, we sell through a combination of direct and distribution channels to customers around the world.

We have organized our product line activities into two product families, cellular and molecular technology ("CMT") and Preclinical. Our CMT product family is primarily composed of products supporting research related to molecular, cellular, organ and organoid technologies. Our CMT products also have application in the emerging field of bioproduction of pharmaceuticals and therapeutics as well as *in vitro* testing of cell lines and organoids in therapy development. Our Preclinical product family includes products that support the preclinical research and testing phase for drug development, and in particular testing related to data collection and analysis for safety and regulatory compliance. Preclinical products are primarily sold to pharmaceutical and biotechnology companies and CROs, as well as large academic laboratories. We sell our products under several brand names, including Harvard Apparatus, DSI, Buxco, Biochrom, BTX, Heka, Hugo Sachs, Multichannel Systems MCS GmbH and Panlab.

Corporate Information

We were incorporated under the laws of the State of Delaware on September 8, 2000.

Our principal executive offices are located at 84 October Hill Road, Holliston, Massachusetts. Our telephone number is (508) 893-8999. We maintain a web site at <http://www.harvardbioscience.com>. The reference to our web site in this prospectus is intended to be an inactive textual reference only. The information contained on, or that can be accessed through, our web site is not incorporated by reference into this prospectus, and you should not consider any information contained in, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

The Securities We May Offer

We may from time to time in one or more offerings offer shares of our common stock and preferred stock, warrants to purchase any of such securities and units comprised of any such securities with a total value of up to \$100,000,000 at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate offering price;
- rates and times of payment of dividends or other payments, if any;
- redemption, conversion, exchange, settlement or sinking fund terms, if any;
- conversion, exchange or settlement prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion, exchange or settlement prices or rates and in the securities or other property receivable upon conversion, exchange or settlement;
- ranking;
- restrictive covenants, if any;

- voting or other rights, if any; and
- important federal income tax considerations.

A prospectus supplement may also add, update or change information in this prospectus or in documents we have incorporated by reference. If there is any inconsistency between the information in this prospectus or in documents we have incorporated by reference and any applicable prospectus supplement, you must rely on the information in the prospectus supplement.

We may sell the securities directly to or through underwriters, dealers or agents. We, and our underwriters or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters, dealers or agents, we will include in any applicable prospectus supplement:

- the names of those underwriters, dealers or agents;
- applicable fees, discounts, and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

Common Stock

We may issue shares of our common stock from time to time. Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders; provided that Holders of common stock are not entitled to vote on any amendment to our Second Amended and Restated Certificate of Incorporation, or our “Charter”, that changes the powers, preferences, rights or other terms of one or more series of undesignated preferred stock if the holders of the affected series are entitled to vote, separately or together, with the holders of one or more other such series, on such amendment pursuant to the Charter or Delaware General Corporation Law. Our Charter provides that our Board shall be divided into three classes, each consisting as nearly as reasonably may be possible of one-third of the total number of directors constituting the entire Board, with each class’s term expiring on a staggered basis. Newly-created directorships and vacancies on our Board may only be filled by a majority of the members of the incumbent board then in office, though less than a quorum, and not by our stockholders. Directors may be removed from office only for cause by the affirmative vote of the holders of at least seventy-five percent (75%) of the outstanding shares entitled to be cast on the election of directors by the then-outstanding shares of all classes and series of capital stock, voting together as a single class. In the event of our liquidation, dissolution or winding up, after the satisfaction in full of the liquidation preferences of holders of any preferred stock, holders of common stock are entitled to ratable distribution of the remaining assets available for distribution to stockholders. Holders of common stock are entitled to receive proportionately any such dividends declared by our Board, out of legally available funds for dividends, subject to any preferences that may be applicable to any shares of preferred stock that may be outstanding at that time. Holders of common stock have no preemptive, redemption or conversion rights and are not subject to future calls or assessments. No sinking fund provisions apply to our common stock. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

We may issue shares of our preferred stock from time to time, in one or more series. Under our Charter, our Board has the authority to issue, without further action by our stockholders, up to 5,000,000 shares of undesignated preferred stock in one or more series and to fix the designations, powers, preferences and the relative, participating, optional or other special rights of the shares of each series and any qualification, limitations and restrictions thereon, any or all of which may be greater than the rights of our common stock. Any convertible preferred stock we may issue will be convertible into our common stock or our other securities. Conversion may be mandatory or at the holder’s option and would be at prescribed conversion rates. You should refer to our amended and restated certificate of incorporation and our amended and restated bylaws, both of which are included as exhibits to the registration statement of which this prospectus is a part.

If we sell preferred stock under this prospectus and applicable prospectus supplements, we will fix the designations, powers, preferences and the relative, participating, optional or other special rights, and any qualification, limitations and restrictions of the shares of each series in the certificate of designations relating to that series. We will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designations that describes the terms of such series of preferred stock before the issuance thereof. We urge you to read any prospectus supplement related to any series of preferred stock we may offer, as well as the complete certificate of designations that contains the terms of the applicable series of preferred stock.

Warrants

We may issue warrants for the purchase of common stock, preferred stock and/or units (as described below) in one or more series, from time to time. We may issue warrants independently or together with common stock and/or preferred stock, and the warrants may be attached to or separate from those securities.

If we issue warrants, they will be evidenced by warrant agreements or warrant certificates issued under one or more warrant agreements, which are contracts between us and an agent for the holders of the warrants. We will indicate the name and address of the warrant agent, if applicable, in the prospectus supplement relating to the particular series of warrants being offered.

We urge you to read any prospectus supplement related to any series of warrants we may offer, as well as the complete warrant agreement and warrant certificate that contain the terms of the warrants. If we issue warrants, forms of warrant agreements and warrant certificates relating to such warrants will be incorporated by reference into the registration statement of which this prospectus is a part from other filings we would make with the SEC.

Units

We may issue units comprised of shares of common stock, shares of preferred stock and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish.

If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference into the registration statement of which this prospectus is a part from other filings we would make with the SEC.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks and uncertainties described under the heading “Risk Factors” contained in the applicable prospectus supplement, and under similar headings in our most recent Annual Report on Form 10-K, as updated by our subsequent annual, quarterly and other reports and documents that are incorporated by reference into this prospectus and the applicable prospectus supplement, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus is a part. Our business, financial condition and results of operations could be materially adversely affected by the materialization of any of these risks. The trading price of our securities could decline due to the materialization of any of these risks, and you may lose all or part of your investment. This prospectus and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Please also read carefully the section below titled “Note Regarding Forward-Looking Statements.”

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, each applicable prospectus supplement and the information incorporated by reference in this prospectus and each prospectus supplement contain statements that are not statements of historical fact and are “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about management’s confidence or expectations, and our plans, objectives, expectations and intentions that are not historical facts. In some cases, you can identify forward-looking statement by terms such as “believe,” “may,” “estimate,” “continue,” “anticipate,” “intend,” “should,” “could,” “would,” “target,” “seek,” “aim,” “believe,” “predicts,” “think,” “objectives,” “optimistic,” “new,” “goal,” “strategy,” “potential,” “is likely,” “will,” “expect,” “plan” “project,” “permit” and similar expressions intended to identify forward- looking statements. These statements reflect our current views with respect to future events, are based on assumptions and are subject to risks and uncertainties. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We discuss many of these risks in greater detail under the heading “Risk Factors” in our SEC filings, and under the caption “Risk Factors” in this prospectus. You should carefully review all of these factors and you should be aware that there may be other factors, including factors of which we are not currently aware, that could cause these differences. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement. You should read this prospectus, the registration statement of which this prospectus is a part, and the exhibits and documents incorporated by reference herein and therein completely and with the understanding that our actual future results may be materially different from those described in forward-looking statements. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements.

You should assume that information contained in or incorporated by reference into this prospectus and any applicable prospectus supplement is accurate only as of the date on the front cover of this prospectus, the date on the front cover of such applicable prospectus supplement or the date of the document incorporated by reference, as applicable. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of the securities offered under this prospectus. Unless otherwise provided in a supplement or amendment to this prospectus, we intend to use any net proceeds from this offering, together with other available funds, for working capital and for other general corporate purposes, which may include research and development expenses, manufacturing expenses, expenses in connection with commercial activities, capital expenditures, repayment of indebtedness, working capital, and general and administrative expenses. We may also use a portion of the net proceeds from the sale of the securities under this prospectus for potential acquisitions of or investments in businesses, products, and technologies that complement our business, although we have no present commitments or agreements to make any such acquisitions or investments. We will set forth in the applicable prospectus supplement our intended use of the net proceeds received from the sale of any securities sold pursuant to the prospectus supplement.

Pending these uses, we intend to invest the net proceeds that we receive from the sale of the securities offered under this prospectus in a variety of capital preservation investments, including short-term, investment-grade and interest-bearing instruments.

SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with the applicable prospectus supplements, summarize material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement the particular terms of the securities offered by that prospectus supplement. If we so indicate in the applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We will also include in the prospectus supplement information, where applicable, about material United States federal income tax considerations relating to the securities and the securities exchange, if any, on which the securities will be listed.

Description of Capital Stock

The following description of our common stock and preferred stock, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, our Charter and our Amended and Restated Bylaws, as amended, or our “Bylaws”, which are exhibits to the registration statement of which this prospectus forms a part, and by applicable law. The terms of our common stock and preferred stock may also be affected by Delaware law.

Authorized Capital Stock

Our authorized capital stock consists of 80,000,000 shares of common stock, par value \$0.01 per share, and 5,000,000 shares of undesignated preferred stock, par value \$0.01 per share. As of October 31, 2024, there were 43,616,621 shares of common stock outstanding and no shares of preferred stock outstanding.

Common Stock

Voting Rights. Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders; provided, that, except as otherwise required by law, holders of common stock are not entitled to vote on any amendment to the Charter that changes the powers, preferences, rights or other terms of one or more series of undesignated preferred stock if the holders of the affected series are entitled to vote, separately or together, with the holders of one or more other such series, on such amendment pursuant to the Charter or Delaware General Corporation Law.

Classified Board of Directors. Our Charter provides that our Board shall be divided into three classes, each consisting as nearly as reasonably may be possible of one-third of the total number of directors constituting the entire Board, with each class’s term expiring on a staggered basis. Newly-created directorships and vacancies on our Board may only be filled by a majority of the members of the incumbent board then in office, though less than a quorum, and not by our stockholders. Directors may be removed from office only for cause by the affirmative vote of the holders of at least seventy-five percent (75%) of the outstanding shares entitled to be cast on the election of directors by the then-outstanding shares of all classes and series of capital stock, voting together as a single class.

Liquidation. In the event of our liquidation, dissolution or winding up, after the satisfaction in full of the liquidation preferences of holders of any preferred stock, holders of common stock are entitled to ratable distribution of the remaining assets available for distribution to stockholders.

Dividend Rights. Holders of common stock are entitled to receive proportionately any such dividends declared by our Board, out of legally available funds for dividends, subject to any preferences that may be applicable to any shares of preferred stock that may be outstanding at that time.

Rights and Preferences. Holders of common stock have no preemptive, redemption or conversion rights and are not subject to future calls or assessments. No sinking fund provisions apply to our common stock. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Listing

Our common stock is listed on the NASDAQ Global Market under the symbol “HBIO.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare.

Preferred Stock

Our Board is authorized to issue up to 5,000,000 shares of preferred stock in one or more series without stockholder approval. Our Board may determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock.

The purpose of authorizing our Board to issue preferred stock in one or more series and determine the number of shares in the series and its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. Examples of rights and preferences that the Board may fix are:

- dividend rights;
- dividend rates;
- conversion rights;
- voting rights;
- terms of redemption; and
- liquidation preferences.

The existence of authorized but unissued shares of preferred stock may enable our Board to render more difficult or 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 were to determine that a takeover proposal is not in the best interests of us or our stockholders, our Board 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, stockholder or stockholder group. The rights of holders of our common stock described above, will be subject to, and may be adversely affected by, the rights of any preferred stock that we may designate and issue in the future. 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 control of us.

We will incorporate by reference as an exhibit to the registration statement, which includes this prospectus, the form of any certificate of designations that describes the terms of the series of preferred stock we are offering. This description and the applicable prospectus supplement will include:

- the title and stated value;
- the number of shares authorized;
- the liquidation preference per share;
- the purchase price;
- the dividend rate, period and payment date, and method of calculation for dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;

- the provisions for a sinking fund, if any;
- the provisions for redemption or repurchase, if applicable, and any restrictions on our ability to exercise those redemption and repurchase rights;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price, or how it will be calculated, and the conversion period;
- voting rights, if any, of the preferred stock;
- preemptive rights, if any;
- restrictions on transfer, sale or other assignment, if any;
- whether interests in the preferred stock will be represented by depositary shares;
- a discussion of any material United States federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs;
- any limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights if we liquidate, dissolve or wind up our affairs; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the preferred stock.

When we issue shares of preferred stock under this prospectus, the shares will fully be paid and nonassessable and will not have, or be subject to, any preemptive or similar rights.

Provisions of our Certificate of Incorporation and Bylaws and Delaware Anti-Takeover Law

Certain provisions of the Delaware General Corporation Law and of our Charter and Bylaws could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts.

These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our Board. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Provisions of our Certificate of Incorporation and Bylaws

Our Charter, our Bylaws and Delaware law contain provisions that could discourage, delay or prevent a third party from acquiring us, even if doing so may be beneficial to our stockholders. In addition, these provisions could limit the price investors would be willing to pay in the future for shares of our common stock. The following are examples of such provisions in our Charter and Bylaws:

- only our Board, pursuant to a resolution adopted by a majority of our directors, may call special meetings of our stockholders;
- stockholders may not act by written consent and stockholder action must take place at the annual or special meeting of our stockholders;
- stockholder proposals and nominations of candidates for election as directors other than nominations made by or at the direction of our Board or a committee of our Board to be brought before any meeting of our stockholders must comply with advance notice procedures;
- our Board is classified into three classes, each consisting as nearly as reasonably may be possible of one-third of the total number of directors constituting the entire Board;
- our Board will fix the exact number of directors to comprise our Board;
- subject to any rights that holders of any series of our undesignated preferred stock may have to elect directors and to fill vacancies on our Board, newly-created directorships and vacancies on our Board may only be filled by a majority of the members of the incumbent board then in office, even if less than a quorum is present, and not by our stockholders;
- a director may be removed from office only for cause by the affirmative vote of holders of shares representing at least seventy-five percent (75%) of the votes entitled to be cast on such matter by the then-outstanding shares of all classes and series of our capital stock, voting together as a single class;
- our Charter and Bylaws do not provide for cumulative voting in the election of directors;
- our Bylaws may be further amended by either (i) the affirmative vote of at least a majority of our entire Board or (ii) the affirmative vote of the holders of at least seventy-five percent (75%) of the combined voting power of the outstanding shares of all classes and series of our capital stock entitled to vote on such amendment, voting together as a single class; and
- our Board is authorized to issue, without further action by our stockholders, up to 5,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our Board.

Additionally, as required by the Delaware General Corporation Law, any amendment of our Charter must first be approved by a majority of our Board and, as required by our Charter, thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon, voting together as a single class, except that the amendment of the provisions relating to stockholder action, directors, limitation of liability, the amendment of our Bylaws and Charter and forum must be approved by not less than seventy-five percent (75%) of the outstanding shares entitled to vote on the amendment, and not less than seventy-five percent (75%) of the outstanding shares of each class entitled to vote thereon as a class. Our Bylaws may be amended by either (i) a vote of at least a majority of our entire Board or (ii) a vote of the holders of at least seventy-five percent (75%) of the combined voting power of the outstanding shares of all classes and series of our capital stock entitled to vote on such amendment, voting together as a single class.

Delaware Anti-Takeover Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, fifteen percent (15%) or more of the corporation’s voting stock. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, the Board approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least eight-five percent (85%) of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or
- at or after the time the stockholder became interested, the business combination was approved by the Board of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Description of Warrants

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

General

We may issue warrants for the purchase of common stock and/or preferred stock in one or more series. We may issue warrants independently or together with common stock and/or preferred stock, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Description of Units

We may issue units comprised of shares of common stock, shares of preferred stock and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued 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. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock” and “Description of Warrants” will apply to the securities included in each unit to the extent relevant and as may be updated in any prospectus supplements.

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of your series will be described in the applicable prospectus supplement.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

Modification without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity; any provisions of the governing unit agreement that differ from those described below;
- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect.

We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

Modification with Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or
- If the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, including our interests in our subsidiaries, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Governing Law

The unit agreements and the units will be governed by Delaware law.

Form, Exchange and Transfer

We will issue each unit in global—i.e., book-entry—form only. Units in book-entry form will be represented by a global security registered in the name of a depository, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depository's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depository and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.

- Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.
- Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.
- If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depository will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.

PLAN OF DISTRIBUTION

We may sell the securities offered pursuant to this prospectus from time to time in one or more transactions, including, without limitation:

- to or through underwriters;
- through broker-dealers (acting as agent or principal);
- through agents;
- directly by us to one or more purchasers (including our affiliates and stockholders), through a specific bidding or auction process, a rights offering or otherwise;
- through a combination of any such methods of sale; or
- through any other methods described in a prospectus supplement.

The distribution of securities may be effected, from time to time, in one or more transactions, including:

- block transactions (which may involve crosses) and transactions on The Nasdaq Capital Market or any other organized market where the securities may be traded;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its own account pursuant to a prospectus supplement;
- ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers;
- sales “at the market” to or through a market maker or into an existing trading market, on an exchange or otherwise; and
- sales in other ways not involving market makers or established trading markets, including direct sales to purchasers.

The applicable prospectus supplement will describe the terms of the offering of the securities, including:

- the name or names of any underwriters, if, and if required, any dealers or agents;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any underwriting discounts and other items constituting underwriters’ compensation;
- any discounts or concessions allowed or re-allowed or paid to dealers; and
- any securities exchange or market on which the securities may be listed or traded.

We may distribute the securities from time to time in one or more transactions at:

- a fixed price or prices, which may be changed;
- market prices prevailing at the time of sale;
- prices related to such prevailing market prices; or
- negotiated prices.

Only underwriters named in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

If underwriters are used in an offering, we will execute an underwriting agreement with such underwriters and will specify the name of each underwriter and the terms of the transaction (including any underwriting discounts and other terms constituting compensation of the underwriters and any dealers) in a prospectus supplement. The securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more investment banking firms or others, as designated. If an underwriting syndicate is used, the managing underwriter(s) will be specified on the cover of the prospectus supplement. If underwriters are used in the sale, the offered securities will be acquired by the underwriters for their own accounts and may be resold 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. Any public offering price and any discounts or concessions allowed or re-allowed or paid to dealers may be changed from time to time. Unless otherwise set forth in the prospectus supplement, the obligations of the underwriters to purchase the offered securities will be subject to conditions precedent, and the underwriters will be obligated to purchase all of the offered securities, if any are purchased.

We may grant to the underwriters options to purchase additional securities to cover over-allotments, if any, at the public offering price, with additional underwriting commissions or discounts, as may be set forth in a related prospectus supplement. The terms of any over-allotment option will be set forth in the prospectus supplement for those securities.

If a dealer is used in the sale of the securities, we, or an underwriter, will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. To the extent required, we will set forth in the prospectus supplement, document incorporated by reference or free writing prospectus, as applicable, the name of the dealer and the terms of the transactions.

We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement.

We may authorize agents or underwriters to solicit offers by institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

In connection with the sale of the securities, underwriters, dealers or agents may receive compensation from us or from purchasers of the securities for whom they act as agents, in the form of discounts, concessions or commissions. Underwriters may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agents. Underwriters, dealers and agents that participate in the distribution of the securities, and any institutional investors or others that purchase securities directly for the purpose of resale or distribution, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the common stock by them may be deemed to be underwriting discounts and commissions under the Securities Act. No FINRA member firm may receive compensation in excess of that allowable under FINRA rules, including Rule 5110, in connection with the offering of the securities.

We may provide agents, underwriters and other purchasers with indemnification against particular civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents, underwriters or other purchasers may make with respect to such liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

To facilitate the public offering of a series of securities, persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the market price of the securities. This may include over-allotments or short sales of the securities, which involves the sale by persons participating in the offering of more securities than have been sold to them by us. In addition, those persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to underwriters or dealers participating in any such offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time. We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above, if implemented, may have on the price of our securities.

Unless otherwise specified in the applicable prospectus supplement, any common stock sold pursuant to a prospectus supplement will be eligible for trading as listed on The Nasdaq Capital Market. Any underwriters to whom securities are sold by us for public offering and sale may make a market in the securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

In order to comply with the securities laws of some states, if applicable, the securities offered pursuant to this prospectus will be sold in those states only through registered or licensed brokers or dealers. In addition, in some states securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution.

LEGAL MATTERS

Certain legal matters in connection with this offering will be passed upon for us by McDermott Will & Emery LLP, Menlo Park, California. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the prospectus supplement.

EXPERTS

The consolidated financial statements and management's assessment of the effectiveness of internal control over financial reporting incorporated by reference in this prospectus and elsewhere in the registration statement have been incorporated by reference in reliance upon the reports of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information requirements of the Exchange Act and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. These documents may be accessed through the SEC's electronic data gathering, analysis and retrieval system, or EDGAR, via electronic means, including the SEC's home page on the Internet (www.sec.gov).

Copies of certain information filed by us with the SEC are also available on our website at <http://www.harvardbioscience.com>. Information contained on our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus or any accompanying prospectus supplement.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede the information already incorporated by reference. We are incorporating by reference the documents listed below, which we have already filed with the SEC, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering, except, in all cases, as to any portion of any future report or document that is not deemed filed under such provisions:

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2023 filed with the SEC on March 7, 2024;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended December 31, 2023 from our definitive proxy statement on [Schedule 14A](#) filed with the SEC on April 3, 2024; and
- Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2024, June 30, 2024 and September 30, 2024, filed with the SEC on [May 7, 2024](#), [August 8, 2024](#) and [November 8, 2024](#), respectively;
- Our Current Reports on Form 8-K filed with the SEC on [January 5, 2024](#), [March 26, 2024](#), [April 3, 2024](#) and [May 14, 2024](#) (in each case, except for information contained therein which is furnished rather than filed); and
- The description of our common stock contained in our Amendment No. 6 to [Form S-1](#) Registration Statement filed with the SEC on December 6, 2000 and [Exhibit 4.2](#) of the Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 16, 2020.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered a copy of the documents incorporated by reference into this prospectus. You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost by writing or telephoning us at the following address:

Harvard Bioscience, Inc.
84 October Hill Road
Holliston, Massachusetts 01746-1371
Telephone: (508) 893-8999

This prospectus is part of a registration statement we filed with the SEC. We have incorporated exhibits into this registration statement. You should read the exhibits carefully for provisions that may be important to you.

You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus or those documents.

Part II—INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The expenses payable by Harvard Bioscience, Inc. (the “Registrant” or the “Company”) in connection with the issuance and distribution of the securities being registered (other than underwriting discounts and commissions, if any) are set forth below. Each item listed is estimated, except for the Securities and Exchange Commission (the “SEC”) registration fee.

SEC registration fee	\$	15,310
FINRA filing fee		*
Legal fees and expenses		*
Accounting fees and expenses		*
Printing fees and expenses		*
Transfer agent and trustee fees		*
Miscellaneous		*
Total	\$	*

* These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

As permitted by Section 102 of the Delaware General Corporation Law, we have adopted provisions in our Second Amended and Restated Certificate of Incorporation, or our Charter, and Amended and Restated Bylaws, as amended, or our Bylaws, that limit or eliminate the personal liability of our directors for a breach of their fiduciary duty of care as a director. The duty of care generally requires that, when acting on behalf of the corporation, directors exercise an informed business judgment based on all material information reasonably available to them. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director’s duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any act related to unlawful stock repurchases, redemptions or other distributions or payments of dividends; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not affect the availability of equitable remedies such as injunctive relief or rescission. Our Charter also authorizes us to indemnify our officers, directors and other agents to the fullest extent permitted under Delaware law.

As permitted by Section 145 of the Delaware General Corporation Law, our Charter and Bylaws provide that we will indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding by reason of the fact that such person, or a person of whom he or she is the legal representative, is or was our director or officer, or by reason of the fact that our director or officer is or was serving, at our request, as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans maintained or sponsored by us. We will indemnify such persons against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action if such person acted in good faith and in a manner reasonably believed to be in our best interests and, with respect to any criminal proceeding, had no reason to believe such person’s conduct was unlawful. A similar standard is applicable in the case of derivative actions, except that indemnification only extends to expenses (including attorneys’ fees) incurred in connection with the defense or settlement of such actions, and court approval is required before there can be any indemnification where the person seeking indemnification has been found liable to us. Any amendment of this provision will not reduce our indemnification obligations relating to actions taken before an amendment.

Our Charter and our Bylaws, each attached as an exhibit to our Amendment No. 2 to Form S-1 Registration Statement (File No. 333- 45996, filed with the SEC on November 9, 2000), provide for the indemnification provisions described above and elsewhere herein. In addition, we have entered into separate indemnification agreements, a form of which is attached as Exhibit 10.8 to our Amendment No. 1 to Form S-1 Registration Statement (File No. 333-45996, filed with the SEC on October 25, 2000), with our directors and officers which may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law.

These indemnification agreements generally require us, among other things, to indemnify our officers and directors against liabilities that may arise by reason of their status or service as directors or officers, subject to certain exceptions and limitations. These indemnification agreements also require us to advance any expenses incurred by the directors or officers as a result of any proceeding against them as to which they could be indemnified. In addition, we have obtained policies that insure our directors and officers and those of our subsidiaries against certain liabilities they may incur in their capacity as directors and officers. Under these policies, the insurer, on our behalf, may also pay amounts for which we have granted indemnification to the directors or officers. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of our officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act.

Item 16. Exhibits

The following Exhibits are filed herewith or incorporated herein by reference:

Exhibit Index

Exhibit No.	Description	Method of Filing
1.1*	Form of underwriting agreement	
2.1§	Separation and Distribution Agreement between Harvard Bioscience, Inc. and Biostage, Inc. (f/k/a Harvard Apparatus Regenerative Technology, Inc.) dated as of October 31, 2013	Exhibit to the Current Report on Form 8-K filed November 6, 2013, and incorporated by reference thereto.
3.1	Second Amended and Restated Certificate of Incorporation of Harvard Bioscience, Inc.	Exhibit to the Registration Statement on Form S-1/A (File No. 333-45996) (filed November 9, 2000) and incorporated by reference thereto.
3.2	Amended and Restated Bylaws of Harvard Bioscience, Inc.	Exhibit to the Registration Statement on Form S-1/A (File No. 333-45996) (filed November 9, 2000) and incorporated by reference thereto.
3.3	Amendment No. 1 to Amended and Restated Bylaws of Harvard Bioscience, Inc. (as adopted October 30, 2007)	Exhibit to the Current Report on Form 8-K (filed November 1, 2007) and incorporated by reference thereto.
4.1	Specimen certificate for shares of Common Stock, \$0.01 par value, of Harvard Bioscience, Inc.	Exhibit to the Registration Statement on Form S-1/A (File No. 333-45996) (filed November 9, 2000) and incorporated by reference thereto.
4.2*	Form of Certificate of Designations	
4.3*	Form of Warrant and Warrant Agreement	
4.4*	Form of Unit Agreement	
5.1	Opinion of McDermott Will & Emery LLP	
23.1	Consent of Grant Thornton LLP	
23.2	Consent of McDermott Will & Emery LLP (included in Exhibit 5.1)	
24.1	Power of Attorney (included in signature page)	
107	Calculation of Filing Fee Table	

* To be filed, if necessary, by amendment or as an exhibit to a document to be incorporated or deemed to be incorporated by reference in this registration statement, including a Current Report on Form 8-K.

§ The schedules and exhibits have been omitted. A copy of any omitted schedule or exhibit will be furnished to the SEC supplementally upon request.

(2) Previously filed as an exhibit to the registrant's Current Report on Form 8-K (filed on November 1, 2007) and incorporated by reference thereto.

(3) Previously filed as an exhibit to the registrant's Current Report on Form 8-K (filed November 6, 2013) and incorporated by reference thereto.

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 of 1933;

(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 Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in 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 paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section 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 Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the 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 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;

(6) 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 the 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; and

(7) 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 of 1933 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 of 1933 and will be governed by the final adjudication of such issue.

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 Town of Holliston, Commonwealth of Massachusetts, on December 6, 2024.

HARVARD BIOSCIENCE, INC.

By: /s/ JAMES GREEN
Name: James Green
Title: Chief Executive Officer

KNOW ALL BE THESE PRESENTS, that each person whose signature appears below hereby severally constitutes and appoints James Green and Jennifer Cote, and each of them singly, as such person's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any or all amendments (including, without limitation, post-effective amendments) to this registration statement (or any 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 all documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ JAMES GREEN</u> James Green	President, Chief Executive Officer and Director (Principal Executive Officer)	December 6, 2024
<u>/s/ JENNIFER COTE</u> Jennifer Cote	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	December 6, 2024
<u>/s/ KATHERINE A. EADE</u> Katherine A. Eade	Director	December 6, 2024
<u>/s/ ALAN EDRICK</u> Alan Edrick	Director	December 6, 2024
<u>/s/ BERTRAND LOY</u> Bertrand Loy	Director	December 6, 2024
<u>/s/ THOMAS W. LOEWALD</u> Thomas W. Loewald	Director	December 6, 2024



December 6, 2024

Harvard Bioscience, Inc.
84 October Hill Road
Holliston, MA 01746

Re: Shelf Registration Statement

Ladies and Gentlemen:

We have acted as counsel to Harvard Bioscience, Inc., a Delaware corporation (the “**Company**”), with respect to certain legal matters in connection with the Company’s registration pursuant to a registration statement on Form S-3 (the “**Registration Statement**”) under the Securities Act of 1933, as amended (the “**Securities Act**”), of the offer and sale by the Company from time to time pursuant to Rule 415 under the Securities Act, of (i) common stock, \$0.01 par value per share, of the Company (the “**Common Stock**”), (ii) preferred stock, \$0.01 par value per share, of the Company (the “**Preferred Stock**,” and along with the Common Stock, the “**Company Stock**”), (iii) warrants to purchase Common Stock or Preferred Stock (the “**Warrants**”), and (iv) units consisting of any combination of Common Stock, Preferred Stock or Warrants (the “**Units**”), having an aggregate public offering price not to exceed \$100,000,000, in each case on terms to be determined at the time of offering by the Company. The Company Stock, Warrants and Units are collectively referred to herein as the “**Securities**.” The Securities will be offered in amounts, at prices and on terms to be set forth in supplements (each, a “**Prospectus Supplement**”) to the prospectus (the “**Prospectus**”) contained in the Registration Statement. This opinion letter is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K in connection with the filing of the Registration Statement.

We have examined such records of the Company, and other documents as we have considered necessary or appropriate for the purposes of this opinion letter. In our examination of such documents, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as certified or photostatic copies and the authenticity of the originals of such documents.

In connection with rendering the opinions set forth below, we have assumed that:

(a) the Certificate of Incorporation (the “**Charter**”) and Bylaws (the “**Bylaws**”) of the Company, each as amended through the date hereof, will not have been further amended in any manner that would affect any legal conclusion set forth herein, and any Certificate of Designations in respect of any series of Preferred Stock will be in conformity therewith and with applicable law;

(b) the consideration paid for any shares of Company Stock will comply with Section 153(a) or Section 153(b) of the Delaware General Corporation Law (the “**DGCL**”) or any successor provision;

(c) the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective under the Securities Act and such effectiveness will not have been terminated or rescinded;

(d) a Prospectus Supplement will have been prepared and filed with the Securities and Exchange Commission describing the Securities offered thereby;

(e) all Securities will be offered and sold in compliance with applicable federal and state securities or “blue sky” laws and in the manner specified in the Registration Statement and the applicable Prospectus Supplement;

(f) with respect to Securities to be offered through an agent, underwriter or dealer or to or through a market maker, the form, terms and conditions of a definitive purchase, placement, agency, underwriting or similar agreement with respect to such Securities or, with respect to Securities to be sold by the Company directly to investors in privately negotiated transactions, the form, terms and conditions of a definitive purchase agreement with respect to such Securities (such agreement with respect to any offering of Securities, the “**Definitive Agreement**”) will have been duly authorized and validly executed and delivered by the Company and the other parties thereto;

(g) in the case of Common Stock, including any Common Stock issuable upon conversion, exchange or exercise of any Securities being offered, the Board of Directors of the Company (the “**Board**”) will have taken all necessary corporate action to approve the issuance of the Common Stock and the issuance of such shares of Common Stock will not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and will comply with any requirements or restrictions imposed by any court or governmental body having jurisdiction over the Company;

(h) in the case of Preferred Stock of any series, including any Preferred Stock issuable upon conversion, exchange or exercise of any Securities being offered, the Board will have taken all necessary corporate action to approve the issuance of the Preferred Stock of such series and to designate and establish the terms of such series and will have caused an appropriate Certificate of Designations or amendment to the Charter with respect to such series of Preferred Stock to be prepared and filed with the Secretary of State of the State of Delaware, and the terms of such series of Preferred Stock will not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and will comply with any requirements or restrictions imposed by any court or governmental body having jurisdiction over the Company;

(i) in the case of Warrants (i) the Board will have taken all necessary corporate action to authorize the creation of and the terms of such Warrants and the issuance of the Securities to be issued upon exercise of such Warrants and to approve any warrant agreement relating thereto (the “**Warrant Agreement**”), (ii) the Warrant Agreement will have been duly executed and delivered by the Company and the warrant agent thereunder, if any, appointed by the Company, (iii) each person signing the Warrant Agreement will have the legal capacity and authority to do so, (iv) neither such Warrants nor the Warrant Agreement will include any provision that is unenforceable, that violates any applicable law or results in a default under or breach of any agreement or instrument binding upon the Company, (v) such Warrants or certificates representing such Warrants will have been duly executed, countersigned, registered and delivered in accordance with the provisions of the Warrant Agreement and (vi) the issuance and sale of the Warrants will not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and will comply with any requirements or restrictions imposed by any court or governmental body having jurisdiction over the Company;

(j) in the case of Units (i) the Board will have taken all necessary corporate action to authorize the creation of and the terms of such Units and the issuance of the Company Stock or Warrants comprising such Units and to approve any unit agreement relating thereto (the “**Unit Agreement**”), (ii) the Unit Agreement will have been duly executed and delivered by the Company and the unit agent thereunder, if any, appointed by the Company, (iii) each person signing the Unit Agreement will have the legal capacity and authority to do so, (iv) none of the Units or the Company Stock or Warrants comprising such Units nor the Unit Agreement will include any provision that is unenforceable, that violates any applicable law or results in a default under or breach of any agreement or instrument binding upon the Company; (v) such Units or certificates representing such Units, if any, will have been duly executed, countersigned, registered and delivered in accordance with the provisions of the Unit Agreement and (vi) the issuance and sale of the Units will not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and will comply with any requirements or restrictions imposed by any court or governmental body having jurisdiction over the Company;

(k) certificates representing shares of Company Stock will have been duly executed, countersigned, registered and delivered, or if uncertificated, valid book-entry notations will have been made in the share register of the Company, in each case in accordance with the provisions of the Company's Charter and Bylaws, each as amended and then in effect;

(l) there will be sufficient Common Stock or Preferred Stock authorized under the Charter and then in effect and not otherwise issued or reserved for issuance;

(m) the purchase price for Company Stock payable to the Company or, if such shares are issuable upon conversion, exchange, redemption or exercise of other Securities, the consideration payable to the Company for such conversion, exchange, redemption or exercise will not be less than the par value of such shares, in the case of Common Stock, or the lesser of such purchase price or such consideration, as the case may be, or the amount of such purchase price or such consideration, as the case may be, timely determined by the Board to constitute the stated capital applicable to such shares, in the case of shares of Preferred Stock; and

(o) the Company will continue to be validly existing and in good standing under the laws of the State of Delaware, with the requisite power and authority to issue and sell all such Securities at such time.

Based on the foregoing, and subject to the assumptions, qualifications, limitations, and exceptions set forth herein, we are of the opinion that:

(1) When the Company Stock has been issued and delivered either (i) in accordance with the terms of the applicable Definitive Agreement, upon payment of the consideration therefor provided for therein, or (ii) upon conversion, exchange or exercise of any Preferred Stock, Warrants or Units, in accordance with the terms of such security or the instrument governing such security providing for such conversion, exchange or exercise, the Company Stock will be validly issued, fully paid and nonassessable.

(2) When the Warrants have been duly executed and countersigned in accordance with the Warrant Agreement and issued and delivered in accordance with the terms of the applicable Definitive Agreement upon payment of the consideration therefor provided therein, such Warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

(3) When the Units have been duly executed and countersigned in accordance with the Unit Agreement and issued and delivered in accordance with the terms of the applicable Definitive Agreement upon payment of the consideration therefor provided therein, such Units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

We express no opinion concerning (a) any provision that relates to severability or separability or purports to require that all amendments, supplements or waivers to be in writing, or (b) the enforceability of indemnification provisions to the extent they purport to relate to liabilities resulting from or based upon negligence or any violation of federal or state securities or blue sky laws.

In addition, our opinions in paragraphs 2 and 3 above are subject to (a) the effect of bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to or affecting the rights and remedies of creditors, (b) the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief, regardless of whether enforcement is considered in a proceeding in equity or at law, and the discretion of the court before which any proceeding therefore may be brought, (c) the unenforceability under certain circumstances under law or court decisions of provisions providing for the indemnification of, or contribution to, a party with respect to a liability where such indemnification or contribution is contrary to public policy, (d) the rights or remedies available to any party for violations or breaches of any provisions of the Warrants and Units, as applicable, that are immaterial or the enforcement of which would be unreasonable under the then existing circumstances, (e) the rights or remedies available to any party for material violations or breaches that are the proximate result of actions taken by any party to the Warrants and Units, as applicable, other than the party against which enforcement is sought, which actions such other party is not entitled to take pursuant to the Warrants and Units, as applicable, or that otherwise violate applicable laws, (f) the rights or remedies available to any party that takes discretionary action that is arbitrary, unreasonable or capricious, or is not taken in good faith or in a commercially reasonable manner, whether or not the Warrants and Units, as applicable, permit such action or (g) the effect of the exercise of judicial discretion, whether in a proceeding in equity or at law.

The foregoing opinions are limited to the DGCL (including the applicable provisions of the Delaware Constitution and the reported judicial decisions interpreting these laws), applicable federal laws of the United States of America and, as to the Warrants and Units constituting binding obligations of the Company, the laws of the State of New York, and we express no opinion as to the effect of the laws of any other jurisdiction, domestic or foreign.

We hereby consent to the references to McDermott Will & Emery LLP under the caption "Legal Matters" in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement. By giving such consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ McDermott Will & Emery LLP

McDermott Will & Emery LLP

**McDermott
Will & Emery**

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated March 7, 2024 with respect to the consolidated financial statements and internal control over financial reporting of Harvard Bioscience, Inc. included in the Annual Report on Form 10-K for the year ended December 31, 2023, which are incorporated by reference in this Registration Statement. We consent to the incorporation by reference of the aforementioned reports in this Registration Statement, and to the use of our name as it appears under the caption "Experts."

/s/ GRANT THORNTON LLP

Hartford, CT
December 6, 2024

Calculation of Filing Fee Tables

Form S-3
(Form Type)Harvard Bioscience, 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 ⁽¹⁾	Maximum Aggregate Offering Price ⁽²⁾	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Equity	Common Stock, par value \$0.01 per share (3)	457(o)	-	-	-	-
	Equity	Preferred Stock, \$0.01 par value per share (4)	457(o)	-	-	-	-
	Other	Warrants(5)	457(o)	-	-	-	-
	Other	Units(6)	457(o)	-	-	-	-
	Unallocated (Universal Shelf)	(1)	457(o)	\$ 100,000,000	\$ 100,000,000	\$ 0.0001531	\$ 15,310.00
Total Offering Amounts					\$ 100,000,000		\$ 15,310.00
Net Fee Due							\$ 15,310.00

- (1) The table lists each class of securities being registered and the aggregate proceeds to be raised in the offering and does not specify by each class information as to the amount to be registered or the proposed maximum offering price per security. Any securities registered hereunder for the offering may be sold separately or together in combination with other securities registered hereunder for the offering. Any securities registered hereunder may be sold separately or as units with any other securities registered hereunder. In no event will the aggregate offering price of all securities issued from time to time in the offering pursuant to the registration statement of which this Exhibit 107 is a part, exceed \$100,000,000, inclusive of any exercise price thereof. Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), the securities being registered hereunder also include such indeterminate number of securities as may be issued from time to time with respect to the securities being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (2) The proposed maximum offering price per 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 is not specified as to each class of security pursuant to Instruction 2.A(iii)(b) of Item 16(b) of Form S-3 under the Securities Act.
- (3) Including such indeterminate amount of common stock as may be issued from time to time at indeterminate prices or upon conversion of preferred stock registered hereby or upon exercise of warrants registered hereby, as the case may be. In the event of a stock split, stock dividend or recapitalization involving the common stock, the number of shares registered shall automatically be adjusted to cover the additional shares of common stock issuable pursuant to Rule 416 under the Securities Act.
- (4) Including such indeterminate amount of preferred stock as may be issued from time to time at indeterminate prices or upon conversion of preferred stock registered hereby or upon exercise of warrants registered hereby, as the case may be.
- (5) Warrants may be sold separately or together with any of the securities registered hereby and may be exercisable for shares of common stock, preferred stock or units registered hereby. Because the warrants will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.
- (6) Because the units will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.