

---

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

---

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

---

**DISC MEDICINE, INC.**  
(Exact name of registrant as specified in its charter)

---

Delaware  
(State or other jurisdiction of  
incorporation or organization)

82-3220679  
(I.R.S. Employer  
Identification Number)

321 Arsenal Street, Suite 101  
Watertown, MA 02472  
(617) 674-9274  
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

---

John Quisel, J.D., Ph.D.  
Chief Executive Officer  
Disc Medicine, Inc.  
321 Arsenal Street, Suite 101  
Watertown, MA 02472  
(617) 674-9274  
(Address, including zip code, and telephone number, including area code, of agent for service)

---

*Copies to:*

William D. Collins, Esq.  
Stephanie Richards, Esq.  
Alicia M. Tschirhart, Esq.  
Goodwin Procter LLP  
100 Northern Avenue  
Boston, MA 02210  
(617) 570-1000

Rahul Khara  
General Counsel  
Disc Medicine, Inc.  
321 Arsenal Street, Suite 101  
Watertown, MA 02472  
(617) 674-9274

**APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC:** From time to time after the effective date of this registration statement.

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, 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 type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" 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 or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

---

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

**Subject to Completion, Dated January 17, 2023**

**PROSPECTUS**



## **DISC MEDICINE, INC.**

### **12,635,956 Shares of Common Stock Offered by the Selling Stockholders**

---

This prospectus relates to the proposed resale or other disposition by the selling stockholders identified in this prospectus of up to an aggregate of 12,635,956 shares of common stock, par value \$0.0001 per share, of Disc Medicine, Inc.

The registration of the shares of common stock covered by this prospectus does not mean that the selling stockholders will offer or sell all or any of the shares. Common stock offered hereby by the selling stockholders, or its pledgees, donees, transferees or other successors in interest, may be sold from time to time directly or indirectly through one or more underwriters, broker-dealers or agents, and in one or more public or private transactions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. If the shares of common stock are sold through underwriters, broker-dealers or agents, the selling stockholders will be responsible for underwriting discounts or commissions. The timing and amount of any sale is within the sole discretion of the selling stockholders, subject to certain restrictions. See the section entitled "*Plan of Distribution*" for more information.

We will not receive any proceeds from any sale of common stock by the selling stockholders. We have agreed to bear the expenses in connection with the registration of the shares of common stock to be offered by this prospectus by the selling stockholders other than any underwriting discounts and commissions or transfer taxes relating to the sale of common stock, which will be borne by the selling stockholders.

Our common stock is listed on the Nasdaq Global Market, or Nasdaq, under the symbol "IRON." On January 13, 2023, the closing price for our common stock, as reported on Nasdaq, was \$19.25 per share.

---

**Investing in our common stock involves a high degree of risk. Before making an investment decision, please read the information under the heading "[Risk Factors](#)" beginning on page 7 of this prospectus and in the documents 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 passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.**

---

**The date of this prospectus is                      , 2023.**

TABLE OF CONTENTS

<a href="#">ABOUT THIS PROSPECTUS</a>	1
<a href="#">CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS</a>	2
<a href="#">THE COMPANY</a>	4
<a href="#">THE OFFERING</a>	6
<a href="#">RISK FACTORS</a>	7
<a href="#">SELECTED FINANCIAL DATA</a>	8
<a href="#">USE OF PROCEEDS</a>	11
<a href="#">DESCRIPTION OF CAPITAL STOCK</a>	12
<a href="#">SELLING STOCKHOLDERS</a>	16
<a href="#">PLAN OF DISTRIBUTION</a>	19
<a href="#">LEGAL MATTERS</a>	21
<a href="#">EXPERTS</a>	21
<a href="#">WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE</a>	22

**On December 29, 2022, we acquired Disc Medicine Opco, Inc. (formerly Disc Medicine, Inc.), or Private Disc, pursuant to an agreement and plan of merger, or the Merger, and we changed our name to Disc Medicine, Inc. on December 29, 2022. As used in this prospectus, unless the context otherwise requires, references to “Disc,” the “Company,” “we,” “us” and “our” refer to (i) prior to the date of the Merger, Private Disc, and its wholly owned, consolidated subsidiaries, or either or all of them as the context may require, and (ii) following the date of the Merger, Disc Medicine, Inc., and its wholly owned, consolidated subsidiaries, or either or all of them as the context may require.**

## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, utilizing a “shelf” registration process. Under this shelf registration process, the selling stockholders may, from time to time, sell the shares of common stock described in this prospectus in one or more offerings.

Neither we, nor the selling stockholders, have authorized anyone to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. The selling stockholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where it is lawful to do so. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any shares other than the registered shares to which it relates, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy shares in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or shares are sold on a later date. Our business, financial condition, results of operations and prospects may have changed since those dates. This prospectus incorporates by reference market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained in this prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

A prospectus supplement may add to, update or change the information contained in this prospectus. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the heading “Where You Can Find Additional Information.”

We use various trademarks and trade names in our business, including without limitation our corporate name and logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

Unless the context otherwise indicates, the term “securities” refers to the shares of our common stock offered by this prospectus.

## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains and/or incorporates by reference statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Our forward-looking statements include, but are not limited to, statements regarding our or our management team's expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intends," "may," "might," "plan," "possible," "potential," "predict," "project," "should," "will," "would" and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements in this prospectus may include, for example, statements about:

- our ability to recognize the benefits of the previously announced merger pursuant to the terms of the Agreement and Plan of Merger, dated August 9, 2022, by and among Gemini Therapeutics, Inc. ("Gemini"), Gemstone Merger Sub, Inc. and Disc Medicine Opco, Inc. (f/k/a Disc Medicine, Inc.);
- the initiation, timing, progress, results, and cost of our research and development programs and our current and future preclinical studies and clinical trials, including statements regarding the timing of initiation and completion of studies or trials and related preparatory work, the period during which the results of the trials will become available, and our research and development programs;
- our ability to efficiently discover and develop product candidates;
- our ability and the potential to successfully manufacture our drug substances and product candidates for preclinical use, for clinical trials and on a larger scale for commercial use, if approved;
- our ability to obtain funding for our operations necessary to complete further development and commercialization of our product candidates;
- our ability to obtain and maintain regulatory approval of our product candidates;
- our ability to commercialize our products, if approved;
- the pricing and reimbursement of our product candidates, if approved;
- the implementation of our business model, and strategic plans for our business and product candidates;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates;
- estimates of our future expenses, revenues, capital requirements, and our needs for additional financing;
- the potential benefits of strategic collaboration agreements, our ability to enter into strategic collaborations or arrangements, and our ability to attract collaborators with development, regulatory and commercialization expertise;
- future agreements with third parties in connection with the commercialization of product candidates and any other approved product;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- our financial performance;
- the rate and degree of market acceptance of our product candidates;
- regulatory developments in the United States and foreign countries;

## [Table of Contents](#)

- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- our ability to produce our products or product candidates with advantages in turnaround times or manufacturing cost;
- the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- the impact of laws and regulations;
- developments relating to our competitors and our industry;
- the impact of global economic and political developments on our business, including rising inflation and capital market disruptions, the current conflict in Ukraine, economic sanctions and economic slowdowns or recessions that may result from such developments which could harm our research and development efforts as well as the value of our common stock and our ability to access capital markets;
- the effect of the ongoing COVID-19 pandemic, including mitigation efforts and economic effects, on any of the foregoing or other aspects of our business operations, including but not limited to our preclinical studies and clinical trials and any future studies or trials; and
- other risks and uncertainties, including those listed under the caption “Risk Factors.”

These forward-looking statements are based on information available to us at the time of this prospectus and current expectations, forecasts and assumptions, and involve a number of judgments, risks and uncertainties. Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date, and we do not undertake any obligation to update forward-looking statements to reflect events or circumstances after the date they were made, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

The outcome of the events described in these forward-looking statements is subject to known and unknown risks, uncertainties, and other factors. As a result of a number of known and unknown risks and uncertainties, our actual results or performance may be materially different from those expressed or implied by these forward-looking statements. Some factors that could cause actual results to differ include:

- the ability to maintain the listing of our common stock on Nasdaq;
- the price of our securities may be volatile due to a variety of factors, including the volatility in capital markets, changes in the competitive and highly regulated industries in which we operate, variations in performance across competitors, changes in laws and regulations affecting our business and changes in our capital structure;
- the risk of downturns in the economy and the possibility of rapid change in the highly competitive industry in which we operate;
- the risk that we will need to raise additional capital to execute our business plan, which may not be available on acceptable terms or at all; and
- the risk that we experience difficulties in managing our growth and expanding operations.

## THE COMPANY

### Company Overview

We are a clinical-stage biopharmaceutical company focused on the discovery, development, and commercialization of novel treatments for patients suffering from serious hematologic diseases. We have assembled a portfolio of clinical and preclinical product candidates that aim to modify fundamental biological pathways associated with the formation and function of red blood cells, specifically heme biosynthesis and iron homeostasis. Our current pipeline includes bitopertin for the treatment of erythropoietic porphyrias, including erythropoietic protoporphyria (“EPP”) and X-linked protoporphyria (“XLP”); and DISC-0974 for the treatment of anemia of myelofibrosis (“MF”) and anemia of chronic kidney disease (“CKD”). In addition, we have two programs in preclinical development: DISC-0998 for the treatment of anemia associated with inflammatory diseases; and a Matriptase-2 inhibitor for the treatment of polycythemia vera (“PV”) and diseases of iron overload. Our approach to product candidate development leverages well understood molecular mechanisms that have been validated in humans. We believe that each of our product candidates, if approved, has the potential to improve the lives of patients suffering from hematologic diseases.

Bitopertin is the lead product candidate in our heme biosynthesis modulation portfolio. Bitopertin was previously evaluated by Hoffmann-La Roche Inc. in a comprehensive clinical program in over 4,000 individuals in other indications which demonstrated the activity of bitopertin as a glycine transporter 1 (“GlyT1”) inhibitor and its effect on heme biosynthesis. We are planning to initially develop bitopertin for the treatment of erythropoietic porphyrias, including EPP and XLP. In July 2022, we received clearance of our investigational new drug application (“IND”) for “A Randomized, Double-blind, Placebo-Controlled Study of Bitopertin to Evaluate the Safety, Tolerability, Efficacy, and Protoporphyrin IX (“PPIX”) Concentrations in Participants with Erythropoietic Protoporphyria (“EPP”)” from the Food and Drug Administration. In July 2022, we initiated BEACON, a Phase 2 open-label, parallel-dose clinical trial designed to evaluate the safety, tolerability and effectiveness of bitopertin in EPP and XLP patients that is being conducted at sites in Australia. Separately, in October 2022, we initiated AURORA, a Phase 2, randomized, double-blind, placebo-controlled clinical trial designed to evaluate the safety, tolerability and efficacy of bitopertin in EPP patients that is being conducted at sites in the United States. We expect interim data from these two trials in 2023. We are planning additional studies in Diamond-Blackfan Anemia (“DBA”) and other indications.

DISC-0974 is the lead product candidate in our iron homeostasis portfolio. DISC-0974 is a monoclonal antibody that is designed to suppress hepcidin production and increase serum iron levels by inhibiting hemojuvelin (“HJV”). We submitted an IND for DISC-0974 in June 2021, received clearance in July 2021, and participants completed a Phase 1 clinical trial in healthy volunteers in the U.S. in June 2022 with results showing evidence of target engagement, iron mobilization and erythropoiesis. We initiated a Phase 1b/2 clinical trial in June 2022 to evaluate the safety, tolerability, pharmacokinetics and pharmacodynamics of DISC-0974 in patients with anemia of MF, and plan to initiate a separate Phase 1b/2 clinical trial in the first half of 2023 in patients with anemia of CKD. We expect interim data from these two trials in 2023. In addition, we are developing a preclinical anti- HJV monoclonal antibody, DISC-0998, which is designed to target hepcidin suppression and was in-licensed from AbbVie Deutschland GmbH & Co. KG. DISC-0998 is designed to increase serum iron levels and has an extended serum half-life as compared to DISC-0974. We believe this profile may be desirable in certain subsets of patients with anemia associated with inflammatory diseases.

Lastly, we are developing a Matriptase-2 inhibitor as part of our iron homeostasis portfolio, which is designed to induce hepcidin production and reduce serum iron levels. Preclinical data has demonstrated positive results, and we are in the process of identifying and optimizing a development candidate in our Matriptase-2 inhibitor program. If successful, we expect to designate a lead candidate and commence IND-enabling studies.

### **Corporate Information**

Disc Medicine, Inc. was originally incorporated under the laws of the state of Delaware in October 2017, and changed its name to Disc Medicine Opco, Inc. (“Disc Opco”), in December 2022. On December 29, 2022, we completed our business combination with Gemini Therapeutics, Inc. (“Gemini”) in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated as of August 9, 2022 (the “Merger Agreement”), by and among Gemini, us and Gemstone Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Gemini (“Merger Sub”), pursuant to which, among other matters, Merger Sub merged with and into Disc Opco, with Disc Opco continuing as a wholly owned subsidiary of us and the surviving corporation of the merger (the “Merger”). In connection with the closing of the Merger, Gemini changed its name to Disc Medicine, Inc.

Our principal executive offices are located at 321 Arsenal Street, Suite 101, Watertown, MA 02472, and our telephone number is (617) 674-9274. Our website address is [www.discmedicine.com](http://www.discmedicine.com). We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus. Our common stock is listed on Nasdaq under the symbol “IRON.”

We use various trademarks and trade names in our business, including without limitation our corporate name and logo. All other trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.



**THE OFFERING**

Common stock Offered by the Selling Stockholders	12,635,956 shares of common stock
Use of Proceeds	We will not receive any proceeds from the sale of the shares of common stock covered by this prospectus.
Nasdaq Symbol	IRON
Offering Price	The selling stockholders will offer the shares of common stock offered by this prospectus at the prevailing market prices or at privately negotiated prices.
Risk Factors	You should read the “Risk Factors” section of this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.

## **RISK FACTORS**

An investment in our securities involves risks and uncertainties. You should carefully consider the risk factors incorporated by reference to our Current Report on Form 8-K filed on December 29, 2022, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in any applicable prospectus supplement before making an investment decision. The risks described in these documents are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occurs, our business, financial condition, results of operations or cash flow could be materially adversely affected. This could cause the trading price of our securities to decline, resulting in a loss of all or part of your investment. Please also carefully read the section titled “*Cautionary Note Regarding Forward-Looking Statements.*”

**SELECTED FINANCIAL DATA****Reverse Stock Split**

On December 29, 2022, we effected a 1-for-10 reverse stock split of our common stock. The total number of authorized shares of capital stock was amended from 260,000,000 to 110,000,000. The par value per common share remained unchanged. The audited consolidated financial statements of Gemini Therapeutics, Inc. included in the Annual Report on Form 10-K for the year ended December 31, 2021, and the unaudited condensed consolidated financial statements included in our Quarterly Reports on Form 10-Q for the periods ended March 31, 2022, June 30, 2022, and September 30, 2022, that are incorporated by reference into this prospectus are presented without giving effect to the reverse stock split. Except where the context otherwise requires, share numbers in this prospectus reflect the 1-for-10 reverse stock split of our common stock.

The following selected financial data has been derived from our audited consolidated financial statements included in our Annual Report on Form 10-K filed with the SEC on March 10, 2022, and our unaudited condensed consolidated financial statements included in our Quarterly Reports on Form 10-Q filed with the SEC on May 6, 2022, August 11, 2022, and November 10, 2022, as adjusted to reflect the reverse stock split for all periods presented. Our historical results are not indicative of the results that may be expected in the future and results of interim periods are not indicative of the results for the entire year. In addition, the below presented historical results do not present the pro forma impact of the reverse merger, as presented in the unaudited pro forma financial statements and accompanying notes for the nine months ended September 30, 2022, and the fiscal year ended December 31, 2021, contained in the Company's Proxy Statement/Prospectus on Form S-4/A and incorporated herein by reference.

**AS REPORTED (in thousands, except per share amounts):**

	<b>Years Ended December 31,</b>	
	<b>2021</b>	<b>2020</b>
Net loss and comprehensive loss	\$ (71,869)	\$ (40,837)
Net loss per share, basic and diluted	\$ (1.78)	\$ (2.70)
Weighted average common shares outstanding, basic and diluted	40,362,303	15,115,129
Common shares outstanding at year end	43,208,159	15,565,380

  

	<b>Three Months Ended March 31,</b>	
	<b>2022</b>	<b>2021</b>
	(Unaudited)	
Net loss and comprehensive loss	\$ (15,231)	\$ (19,048)
Net loss per share, basic and diluted	\$ (0.35)	\$ (0.59)
Weighted average common shares outstanding, basic and diluted	43,212,803	32,027,161
Common shares outstanding at period end	43,227,159	43,002,144

  

	<b>Three Months Ended June 30,</b>	
	<b>2022</b>	<b>2021</b>
	(Unaudited)	
Net loss and comprehensive loss	\$ (7,090)	\$ (16,447)
Net loss per share, basic and diluted	\$ (0.16)	\$ (0.38)
Weighted average common shares outstanding, basic and diluted	43,230,523	43,041,856
Common shares outstanding at period end	43,244,453	43,055,112

[Table of Contents](#)

	Six Months Ended June 30,	
	2022	2021
	(Unaudited)	
Net loss and comprehensive loss	\$ (22,321)	\$ (35,495)
Net loss per share, basic and diluted	\$ (0.52)	\$ (0.94)
Weighted average common shares outstanding, basic and diluted	43,221,712	37,564,936
Common shares outstanding at period end	43,244,453	43,055,112

	Three Months Ended September 30,	
	2022	2021
	(Unaudited)	
Net loss and comprehensive loss	\$ (3,277)	\$ (18,551)
Net loss per share, basic and diluted	\$ (0.08)	\$ (0.43)
Weighted average common shares outstanding, basic and diluted	43,264,616	43,091,822
Common shares outstanding at period end	43,299,453	43,112,742

	Nine Months Ended September 30,	
	2022	2021
	(Unaudited)	
Net loss and comprehensive loss	\$ (25,598)	\$ (54,046)
Net loss per share, basic and diluted	\$ (0.59)	\$ (1.37)
Weighted average common shares outstanding, basic and diluted	43,236,171	39,427,476
Common shares outstanding at period end	43,299,453	43,112,742

**AS ADJUSTED FOR 1-FOR-10 REVERSE STOCK SPLIT (unaudited, in thousands, except per share amounts):**

	Years Ended December 31,	
	2021	2020
	(Unaudited)	
Net loss and comprehensive loss	\$ (71,869)	\$ (40,837)
Net loss per share, basic and diluted	\$ (17.81)	\$ (27.02)
Weighted average common shares outstanding, basic and diluted	4,036,230	1,511,512
Common shares outstanding at year end	4,320,815	1,556,538

	Three Months Ended March 31,	
	2022	2021
	(Unaudited)	
Net loss and comprehensive loss	\$ (15,231)	\$ (19,048)
Net loss per share, basic and diluted	\$ (3.52)	\$ (5.95)
Weighted average common shares outstanding, basic and diluted	4,321,280	3,202,716
Common shares outstanding at period end	4,322,715	4,300,214

[Table of Contents](#)

	<b>Three Months Ended June 30,</b>	
	<b>2022</b>	<b>2021</b>
	<i>(Unaudited)</i>	
Net loss and comprehensive loss	\$ (7,090)	\$ (16,447)
Net loss per share, basic and diluted	\$ (1.64)	\$ (3.82)
Weighted average common shares outstanding, basic and diluted	4,323,052	4,304,185
Common shares outstanding at period end	4,324,445	4,305,511

	<b>Six Months Ended June 30,</b>	
	<b>2022</b>	<b>2021</b>
	<i>(Unaudited)</i>	
Net loss and comprehensive loss	\$ (22,321)	\$ (35,495)
Net loss per share, basic and diluted	\$ (5.16)	\$ (9.45)
Weighted average common shares outstanding, basic and diluted	4,322,171	3,756,493
Common shares outstanding at period end	4,324,445	4,305,511

	<b>Three Months Ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
	<i>(Unaudited)</i>	
Net loss and comprehensive loss	\$ (3,277)	\$ (18,551)
Net loss per share, basic and diluted	\$ (0.76)	\$ (4.30)
Weighted average common shares outstanding, basic and diluted	4,326,461	4,309,182
Common shares outstanding at period end	4,329,945	4,311,274

	<b>Nine Months Ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
	<i>(Unaudited)</i>	
Net loss and comprehensive loss	\$ (25,598)	\$ (54,046)
Net loss per share, basic and diluted	\$ (5.92)	\$ (13.71)
Weighted average common shares outstanding, basic and diluted	4,323,617	3,942,747
Common shares outstanding at period end	4,329,945	4,311,274

## **USE OF PROCEEDS**

This prospectus relates to the potential resale from time to time of some or all of 12,635,956 shares of our common stock. The selling stockholders will receive all of the proceeds from any sale of such shares. We will not receive any proceeds from any sales of shares of our common stock by the selling stockholders

We have agreed to bear the expenses in connection with the registration of the shares of common stock to be offered by this prospectus by the selling stockholders other than any underwriting discounts and commissions or transfer taxes relating to the sale of common stock, which will be borne by the selling stockholders.

## DESCRIPTION OF CAPITAL STOCK

The following summary of the material terms of our securities is not intended to be a complete summary of the rights and preferences of such securities, and is qualified by reference to the Certificate of Incorporation and the Bylaws described herein, which are exhibits to the registration statement of which this prospectus is a part. We urge you to read each of the Certificate of Incorporation and the Bylaws described herein in their entirety for a complete description of the rights and preferences of our securities.

### Authorized and Outstanding Capital Stock

The Certificate of Incorporation authorizes the issuance of 100,000,000 shares of common stock, \$0.0001 par value per share and 10,000,000 shares of preferred stock, \$0.0001 par value. The outstanding shares of the Company are duly authorized, validly issued, fully paid and non-assessable. As of January 4, 2023, there was 17,405,598 shares of common stock and no shares of preferred stock issued and outstanding.

### Common Stock

**Voting rights.** Except as otherwise required by law or as otherwise provided in any certificate of designation for any series of preferred stock, the holders of common stock possess all voting power for the election of directors and all other matters requiring stockholder action. Holders of common stock are entitled to one vote per share on matters to be voted on by stockholders. Each election of directors by stockholders will be determined by a plurality of the votes cast by the stockholders entitled to vote on the election.

**Dividend rights.** Holders of common stock will be entitled to receive such dividends, if any, as may be declared from time to time by the Company's board of directors (the "Board") in its discretion out of funds legally available therefor. In no event will any stock dividends or stock splits or combinations of stock be declared or made on shares of common stock unless the shares of common stock at the time outstanding are treated equally and identically.

**Rights upon liquidation.** In the event of a voluntary or involuntary liquidation, dissolution, distribution of assets or winding-up, the holders of common stock will be entitled to receive an equal amount per share of all of our assets of whatever kind available for distribution to stockholders, after the rights of the holders of the preferred stock have been satisfied.

**Other rights.** The holders of common stock have no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of holders of common stock will be subject to those of the holders of any shares of the preferred stock we may issue in the future.

### Preferred Stock

The Board has the authority to issue shares of preferred stock from time to time on terms it may determine, to divide shares of preferred stock into one or more series and to fix the designations, preferences, privileges, and restrictions of preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption, liquidation preference, sinking fund terms, and the number of shares constituting any series or the designation of any series to the fullest extent permitted by the General Corporation Law of Delaware (the "DGCL"). The issuance of preferred stock could have the effect of decreasing the trading price of our common stock, restricting dividends on our capital stock, diluting the voting power of our common stock, impairing the liquidation rights of our capital stock, or delaying or preventing a change in control. As of the date of this prospectus, there are no shares of preferred stock outstanding, and we have no present plans to issue any shares of preferred stock.

## [Table of Contents](#)

### **Dividends**

The Company has not paid any cash dividends on the common stock to date and does not intend to pay cash dividends. The payment of cash dividends in the future will be dependent upon the Company's revenues and earnings, if any, capital requirements and general financial condition. The payment of any cash dividends will be within the discretion of the Board at such time. Our ability to declare dividends may also be limited by restrictive covenants pursuant to any debt financing agreements.

### **Lock-Up Restrictions**

Certain of our stockholders are subject to certain restrictions on transfer of shares of our common stock until the termination of applicable lock-up periods pursuant to lock-up agreements entered into in connection with the merger.

### **Listing of Securities**

Our common stock is listed on Nasdaq under the symbol "IRON."

### **Transfer Agent and Registrar**

The transfer agent and registrar for the common stock is Continental Stock Transfer & Trust Company.

### **Certain Anti-Takeover Provisions of Delaware Law**

#### *Classified Board of Directors*

The Certificate of Incorporation provides that the Board is divided into three classes of directors, with the classes to be as nearly equal in number as possible, and with each director serving a three-year term. As a result, approximately one-third of the Board will be elected each year. The classification of directors has the effect of making it more difficult for stockholders to change the composition of the Board.

#### *Authorized but Unissued Shares*

The authorized but unissued shares of Company common stock and preferred stock are available for future issuance without stockholder approval, subject to any limitations imposed by the listing standards of Nasdaq. These additional shares may be used for a variety of corporate finance transactions, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved shares of the Company's common stock and preferred stock could make more difficult or discourage an attempt to obtain control of the Company by means of a proxy contest, tender offer, merger or otherwise.

#### *Stockholder Action; Special Meetings of Stockholders*

The Certificate of Incorporation provides that any action required or permitted to be taken by stockholders at any annual or special meeting, may not be effected by written consent or by electronic transmission, and must be effected at an annual or special meetings of stockholders called in accordance with the Bylaws. As a result, a holder controlling a majority of Company capital stock would not be able to amend the Bylaws or remove directors without holding a meeting of stockholders called in accordance with the Bylaws. This restriction does not apply to actions taken by the holders of any series of preferred stock of the Company to the extent expressly provided in the applicable preferred stock designation. Further, the Certificate of Incorporation provides that, subject to any special rights of the holders of preferred stock of the Company, only a majority of the total number of directors then in office may call special meetings of stockholders, thus prohibiting a holder of the Company's common stock from calling a special meeting. These provisions might delay the ability of stockholders to force consideration of a proposal or for stockholders controlling a majority of Company capital stock to take any action, including the removal of directors.



## [Table of Contents](#)

### *Advance Notice Requirements for Stockholder Proposals and Director Nominations*

The Bylaws provide that stockholders seeking to propose business before the Company's annual meeting of stockholders, or to nominate candidates for election as directors at its annual meeting of stockholders, must provide timely notice. To be timely, a stockholder's notice will need to be delivered to, or mailed and received at, the Company's principal executive offices not less than on the 90th day nor earlier than the close of business on the 120th day prior to the one-year anniversary of the preceding year's annual meeting. In the event that the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date or if no annual meeting was held in the preceding year, to be timely, a stockholder's notice must be so received, not earlier than the close of business on the 90th day prior to the scheduled date of the annual meeting, the 10th day following the day on which public announcement of the date of such annual meeting was first made by the Company. The Company's bylaws will also specify certain requirements as to the form and content of a stockholders' notice. These provisions may preclude the Company's stockholders from bringing matters before its annual meeting of stockholders or from making nominations for directors at its annual meeting of stockholders.

### *Amendment of Charter or Bylaws*

The Bylaws may be amended or repealed by the Board or by the affirmative vote of not the holders of not less than two-thirds of the voting power of all of the shares of the capital stock of the Company entitled to vote on such amendment or repeal, voting as one class; provided, however, that if the Board recommends that stockholders approve such amendment or repeal, such amendment or repeal shall only require the affirmative vote of the majority of the outstanding shares of capital stock entitled to vote on such amendment or repeal, voting together as a single class. The affirmative vote of the holders of the majority of the outstanding shares of capital stock of the Company entitled to vote thereon as a class, and the affirmative vote of the holders of a majority of the outstanding shares of each class entitled to vote thereon as a class voting together as a single class, will be required to amend certain provisions of the Certificate of Incorporation.

### *Board Vacancies*

Any vacancy on the Board may be filled solely by the affirmative vote of a majority vote of the directors then in office, even if less than a quorum, or by a sole remaining director, subject to any special rights of the holders of preferred stock of the Company. Any director chosen to fill a vacancy will hold office until the expiration of the term of the class for which he or she was elected and until his or her successor is elected and qualified or until their earlier resignation, death or removal. Except as otherwise provided by law, in the event of a vacancy in the Board, the remaining directors may exercise the powers of the full Board until the vacancy is filled.

### *Section 203 of the Delaware General Corporation Law*

The Company shall not be governed by Section 203 of the DGCL.

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

The Certificate of Incorporation provides that the Company's directors, officers and agents will be indemnified and advanced expenses by the Company to the fullest extent permitted by law as it now exists or may in the future be amended. In addition, the Certificate of Incorporation provides that the Company's directors will not be personally liable to the Company or its stockholders for monetary damages for breaches of their fiduciary duty as directors to the fullest extent permitted by the DGCL.

The Certificate of Incorporation also permits the Company to purchase and maintain insurance on behalf of any officer, director or employee of the Company for any liability arising out of his or her status as such, regardless of whether the DGCL would permit indemnification.

---

[Table of Contents](#)

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

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to the Company directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

**SELLING STOCKHOLDERS**

This prospectus relates to the potential resale from time to time of some or all of 12,635,956 shares of our common stock which were issued to the selling stockholders. The information presented regarding the selling stockholders is based, in part, on information the selling stockholders provided to us specifically for use in this prospectus. The selling stockholders may sell all, some or none of their shares in this offering. See “*Plan of Distribution.*” We may supplement this prospectus from time to time in the future to update or change the selling stockholders list and the number of shares of common stock that may be offered and sold by the selling stockholders. The registration for resale of the shares of common stock does not necessarily mean that the selling stockholders will sell all or any of these shares. In addition, the selling stockholders may have sold, transferred or otherwise disposed of, or may sell, transfer or otherwise dispose of, at any time and from time to time, shares of common stock in transactions exempt from the registration requirements of the Securities Act, after the date on which it provided the information set forth in the table below.

Beneficial ownership for the purposes of the table below is determined in accordance with the rules and regulations of the SEC. These rules generally provide that a person is the beneficial owner of securities if such person has or shares the power to vote or direct the voting thereof, or to dispose or direct the disposition thereof or has the right to acquire such powers within 60 days. Unless otherwise indicated below, to our knowledge, the persons and entities named in the tables have sole voting and sole investment power with respect to all securities that they beneficially own, subject to community property laws where applicable.

The following table sets forth, as of the date of this prospectus, the names of the selling stockholders, the aggregate number of shares of common stock beneficially owned, the aggregate number of shares of common stock that the selling stockholders may offer pursuant to this prospectus and the number of shares of common stock beneficially owned by the selling stockholders after the sale of the securities offered hereby. Because the selling stockholders are not obligated to sell the shares of common stock, we cannot estimate the amount of the shares of common stock that the selling stockholders will hold upon consummation of any such sales. For purposes of the following table, we have assumed the sale of all of the shares of common stock that may be offered for sale pursuant to this prospectus. Percentage of beneficial ownership is based on 17,405,598 shares of common stock outstanding as of January 4, 2023. Pursuant to Rule 416 under the Securities Act, the prospectus also covers any additional shares of our common stock that may become issuable in connection with shares of common stock by reason of a stock dividend, stock split or other similar transaction effected without our receiving any cash or other value, which results in an increase in the number of shares of our common stock outstanding.

Name and Address of Selling stockholders	Number of Shares Beneficially Owned Before the Offering	Number of Shares that May Be Offered Hereby <sup>(9)</sup>	Shares Beneficially Owned After the Offering	
			Number	Percentage
AI DMI LLC <sup>(1)</sup>	2,706,976	2,706,976	—	—
Entities Affiliated with OrbiMed Advisors LLC <sup>(2)</sup>	2,160,941	2,160,941	—	—
Entities Affiliated with Atlas Ventures <sup>(3)</sup>	3,461,785	3,461,785	—	—
Novo Holdings A/S <sup>(4)</sup>	2,340,772	2,340,772	—	—
Arix Bioscience Holdings Limited <sup>(5)</sup>	589,663	589,663	—	—
Entities Affiliated with Janus Henderson Investors <sup>(6)</sup>	500,330	500,330	—	—
Entities Affiliated with Rock Springs Capital <sup>(7)</sup>	339,497	339,497	—	—
5AM Opportunities II, L.P. <sup>(8)</sup>	535,992	535,992	—	—

- (1) The shares held by AI DMI LLC may be deemed to be beneficially owned by Access Industries Holdings LLC (“AIH”), Access Industries Management, LLC (“AIM”) and Len Blavatnik because (i) AIH indirectly

## Table of Contents

controls all of the outstanding voting interests in AI ETI LLC, (ii) AIM controls AIH and (iii) Mr. Blavatnik controls AIM and holds a majority of the outstanding voting interests in AIH. Liam Ratcliffe, a member of Disc's board of directors, is Head of Biotechnology at Access Industries, Inc., which is an affiliate of AI DMI LLC. Each of AIM, AIH, Mr. Blavatnik and Dr. Ratcliffe, and each of their affiliated entities and the officers, partners, members and managers thereof, disclaims beneficial ownership of the shares held by AI DMI LLC. The address of AI DMI LLC is c/o Access Industries, Inc., 40 West 57th Street, 28th Floor, New York, NY 10019.

- (2) OrbiMed Advisors LLC exercises voting and investment power through a management committee comprised of Carl L. Gordon, Sven H. Borho, and W. Carter Neild. The business address is 601 Lexington Avenue, 54th Floor, New York, NY 10022.
- (3) Consists of (i) 2,237,303 shares held by Atlas Venture Fund X, L.P. ("Atlas Fund X"), 955,156 shares held by Atlas Venture Opportunity Fund I, L.P. ("AVOF I"), 218,326 shares held by Atlas Venture Opportunity Fund II, L.P. ("AVOF II") and 51,000 shares held by Atlas Venture Fund XII, L.P. ("Atlas Fund XII"). Atlas Venture Associates X, L.P. is the general partner of Atlas Fund X, and Atlas Venture Associates X, LLC is the general partner of Atlas Venture Associates X, L.P. Each of Atlas Fund X, Atlas Venture Associates X, L.P., and Atlas Venture Associates X, LLC may be deemed to beneficially own the shares held by Atlas Fund X. Each of Atlas Venture Associates X, L.P. and Atlas Venture Associates X, LLC disclaim Section 16 beneficial ownership of the securities owned by Atlas Fund X, except to the extent of its pecuniary interest therein, if any. The general partner of AVOF I is Atlas Venture Associates Opportunity I, L.P. ("AVAO I LP") and the general partner of AVAO I LP is Atlas Venture Associates Opportunity I, LLC ("AVAO I LLC"). The members of AVAO I LLC collectively make investment decisions on behalf of AVAO I LLC. Kevin Bitterman, Ph.D., is a member of AVAO I LLC and a member of the Company's Board. Each of AVOF I, AVAO I LP, AVAO I LLC and Dr. Bitterman may be deemed to beneficially own the shares held by AVOF I. Each of AVAO I LP, AVAO I LLC and Dr. Bitterman expressly disclaim beneficial ownership of the securities owned by AVOF I, except to the extent of its pecuniary interest therein, if any. The general partner of AVOF II is Atlas Venture Associates Opportunity II, L.P. ("AVAO II LP") and the general partner of AVAO II LP is Atlas Venture Associates Opportunity II, LLC ("AVAO II LLC"). The members of AVAO II LLC collectively make investment decisions on behalf of AVAO II LLC. Dr. Bitterman is a member of AVAO II LLC and a member of the Company's Board. Each of AVAO II LP, AVAO II LLC and Dr. Bitterman may be deemed to beneficially own the shares held by AVOF II. Each of AVOF II, AVAO II LP, AVAO II LLC and Dr. Bitterman expressly disclaim beneficial ownership of the securities owned by AVOF II, except to the extent of its pecuniary interest therein, if any. The general partner of Atlas Fund XII is Atlas Venture Associates XII, L.P. ("AVA XII LP"). Atlas Venture Associates XII, LLC ("AVA XII LLC") is the general partner of AVA XII LP. The members of AVA XII LLC collectively make investment decisions on behalf of AVA XII LLC. Dr. Bitterman is a member of AVA XII LLC and a member of the Company's Board. Each of Atlas Fund XII, AVA XII LP, AVA XII LLC and Dr. Bitterman may be deemed to beneficially own the shares held by Atlas Fund XII. Each of AVA XII LP, AVA XII LLC and Dr. Bitterman expressly disclaim Section 16 beneficial ownership of the securities owned by Atlas Fund XII, except to the extent of its pecuniary interest therein, if any. The address for Atlas Ventures is 300 Technology Sq., 8th Floor, Cambridge, MA 02139.
- (4) Novo Holdings A/S has the sole power to vote and dispose of the shares, and no individual or other entity is deemed to hold any beneficial ownership in the shares. Eric Snyder, Ph.D. is employed as a Partner at Novo Ventures (US), Inc., which provides certain consultancy services to Novo Holdings A/S, and is a former member of the Company's Board. Dr. Snyder is not deemed to hold any beneficiary ownership or reportable pecuniary interest in the shares held by Novo Holdings A/S. The business address of Novo Holdings A/S is Tuborg Havnevej 19, 2900 Hellerup, Denmark.
- (5) The address of Arix Bioscience Holdings Limited is Duke Street House, 50 Duke Street, London W1K 6JL, United Kingdom.
- (6) Consists of (i) 271,998 shares held by Janus Henderson Biotech Innovation Master Fund Limited ("Janus Biotech"), (ii) 109,462 shares held by Janus Henderson Capital Funds plc - Janus Henderson Global Life Sciences Fund ("Janus Capital"), and (iii) 118,870 shares held by Janus Henderson Global Life Sciences Fund ("Janus Global Life Sciences"). Such shares owned by Janus Biotech, Janus Capital, and Janus Global

## Table of Contents

Life Sciences may be deemed to be beneficially owned by, Janus Henderson Investors US LLC (“Janus”), an investment adviser registered under the Investment Advisers Act of 1940, who acts as investment adviser for the Fund and has the ability to make decisions with respect to the voting and disposition of the shares subject to the oversight of the board of trustees (or similar entity) of the Fund. Under the terms of its management contract, Janus has overall responsibility for directing the investments of the Fund in accordance with the Fund’s investment objective, policies and limitations. The Fund has one or more portfolio managers appointed by and serving at the pleasure of Janus who makes decisions with respect to the disposition of the Shares. The address for Janus is 151 Detroit Street, Denver, CO 80206. The portfolio managers for this Fund are Andrew Acker and Daniel S. Lyons.

- (7) Consists of (i) 271,598 shares of our common stock owned by Rock Springs Capital Master Fund LP (“Master Fund”) and (ii) 67,899 shares of our common stock owned by Four Pines Master Fund LP (“Four Pines”). Rock Springs Capital LLC (“RSC”) is the general partner of Rock Springs Capital Management LP (“RSCM”) which is the investment manager to Master Fund and Four Pines. RSC and RSCM may therefore be deemed to have or share beneficial ownership of the shares held directly by Master Fund and Four Pines. The address for RSC and RSCM is 650 South Exeter St., Suite 1070, Baltimore, Maryland 21202.
- (8) The address of 5AM Opportunities II, L.P. is 501 Second Street, Suite 350, San Francisco, CA 94107.
- (9) No other shares of common stock, including, without limitation, shares of common stock acquired in the open market are being offered under this prospectus.

## PLAN OF DISTRIBUTION

The selling stockholders may sell all or a portion of the shares of common stock held by them and offered hereby from time to time, in one or more transactions, directly or through one or more underwriters, broker-dealers or agents. As used in this prospectus, the term “selling stockholders” includes any donees, pledgees, transferees or other successors in interest of the selling stockholders after the date of this prospectus. If the shares of common stock are sold through underwriters, broker-dealers, or agents, the selling stockholders will be responsible for underwriting discounts or commissions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, at negotiated prices or such other price as the selling stockholders determines from time to time. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the shares of common stock may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing or settlement of options, whether such options are listed on an options exchange or otherwise;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares of common stock as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- directly to multiple purchasers or a single purchaser;
- short sales made after the date the registration statement is declared effective by the SEC;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares of common stock under Rule 144 promulgated under the Securities Act, if available, rather than under this prospectus. In addition, the selling stockholders may transfer the shares of common stock by other means not described in this prospectus. If the selling stockholders effects such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). In connection with sales of the shares of common stock, the selling stockholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling stockholders may also sell shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares.

## Table of Contents

The selling stockholders may pledge or grant a security interest in some or all of the shares of common stock owned by it and, if it defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus. The selling stockholders also may transfer and donate the shares of common stock in other circumstances in which case the pledgees, transferees, donees, or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

To the extent required by the Securities Act and the rules and regulations thereunder, the selling stockholders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be “underwriters” within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At a time a particular offering of shares of our common stock is made, an additional prospectus supplement, if required, may be distributed that will set forth the number of shares of our common stock being offered, the method of distribution and the terms of the offering, including the name or names of any underwriters, dealers or agents, the purchase price paid by any underwriter and any discount. In order to comply with the securities laws of some states, if applicable, the shares of our common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states shares of our common stock may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock by the selling stockholders and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

To the extent applicable, we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We will not receive any proceeds from sales of any shares of common stock by the selling stockholders.

We cannot assure you that the selling stockholders will sell all or any portion of the shares of common stock offered hereby. We are registering the resale of shares of our common stock to provide the selling stockholders with freely tradable securities, but the registration of such shares does not necessarily mean that any of such shares will be offered or sold by the selling stockholders pursuant to this prospectus or at all.

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

## **LEGAL MATTERS**

The validity of the common stock being offered by this prospectus has been passed upon for us by Goodwin Procter LLP, Boston, Massachusetts.

## **EXPERTS**

The consolidated financial statements of Disc Medicine, Inc. (formerly known as Gemini Therapeutics, Inc.) for the year ended December 31, 2021 included in the Annual Report on Form 10-K dated March 10, 2022 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The consolidated financial statements of Disc Medicine Opco, Inc. (formerly known as Disc Medicine, Inc.) for the year ended December 31, 2021, appearing in the Company's Current Report on Form 8-K dated December 29, 2022, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.



## WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

### Available Information

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is [www.sec.gov](http://www.sec.gov).

Our website address is [www.discmecine.com](http://www.discmecine.com). The information on our website, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement through the SEC's website, as provided above.

### Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

- Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2021, filed with the SEC on March 10, 2022;
- Quarterly Reports on Form 10-Q for the quarters ended March 31, 2022, June 30, 2022 and September 30, 2022, filed with the SEC on [May 6, 2022](#), [August 11, 2022](#), and [November 10, 2022](#) respectively;
- Current Reports on Form 8-K filed with the SEC on [January 10, 2022](#) (excluding information furnished pursuant to Item 7.01), [January 14, 2022](#), [February 28, 2022](#) (excluding information furnished pursuant to Item 7.01), [April 5, 2022](#), [August 10, 2022](#) (excluding information furnished pursuant to Item 7.01), [December 8, 2022](#), [December 28, 2022](#) and [December 29, 2022](#) (excluding information furnished pursuant to Items 2.02 or 7.01, or corresponding information furnished under Item 9.01 or included as an exhibit); and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) filed with the SEC on August 10, 2020, and as set forth by the description of the Registrant's common stock set forth in [Exhibit 4.4](#) to the Registrant's Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on March 10, 2022, and as further supplemented by the description of the Registrant's common stock set forth in the Registrant's Registration Statement on [Form S-4/A](#), filed with the SEC on December 1, 2022, including any amendments or reports filed for the purpose of updating such description.

---

## [Table of Contents](#)

These documents may also be accessed on our website at [www.discmedicine.com](http://www.discmedicine.com). Except as otherwise specifically incorporated by reference in this prospectus, information contained in, or accessible through, our website is not a part of this prospectus.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may request a free copy of any of the documents incorporated by reference in this prospectus by writing or telephoning us at the following address:

Disc Medicine, Inc.  
321 Arsenal Street, Suite 101  
Watertown, MA 02472  
Attention: Investor Relations  
(617) 674-9274

Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus or any accompanying prospectus supplement.

**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

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

The following is an estimate of the expenses (all of which are to be paid by the registrant) that we may incur in connection with the securities being registered hereby.

SEC registration fee	\$ 26,046.38
Legal fees and expenses	75,000.00
Accounting fees and expenses	20,000.00
Printing and miscellaneous expenses	2,500.00
Total	<u>\$ 123,546.38</u>

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

Section 145(a) of the Delaware General Corporation Law, or the DGCL provides, in general, that a corporation may 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, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), because he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the DGCL provides, in general, that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor because the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be made with respect to any claim, issue or matter as to which he or she shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, he or she is fairly and reasonably entitled to indemnity for such expenses that the Court of Chancery or other adjudicating court shall deem proper.

Section 145(g) of the DGCL provides, in general, that a corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify the person against such liability under Section 145 of the DGCL. such liability under Section 145.

We have adopted provisions in our certificate of incorporation and bylaws, which became effective on February 5, 2021, that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. 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;

## Table of Contents

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

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our Board, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance expenses, including attorneys' fees, to our directors and, in the discretion of our Board, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We have entered into indemnification agreements with several of our directors and executive officers. These agreements provide that we will indemnify each of our directors and executive officers to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director or executive officer in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's services as a director referenced herein. Nonetheless, we have agreed in the indemnification agreements that our obligations to those same directors are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Under the Merger Agreement, from the effective time of the merger through the sixth anniversary of the date of the effective time, Gemini and the surviving corporation agree to indemnify and hold harmless each person who was, as of August 9, 2022, the signing date of the Merger Agreement, or had been at any time prior, or who becomes prior to the effective time of the merger, a director or officer of Gemini or Disc, against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses pertaining to claims arising out of the fact that such person was a director or officer of Gemini or Disc, at or prior to the effective time of the merger, to the fullest extent permitted under the DGCL.

Under the Merger Agreement, the certificate of incorporation and bylaws of the surviving corporation in the merger with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of Gemini that are set forth in the certificate of incorporation and bylaws of Gemini in effect as of August 9, 2022, the date of the Merger Agreement, shall not be amended, modified or repealed for a period of six years from the effective time of the merger in a manner that would adversely affect the rights of such individuals who at the effective time of the merger were officers or directors of Gemini, unless required by applicable law.

In connection with the merger, Gemini purchased an insurance policy in effect for six years from the effective time of the merger, providing no less favorable coverage as the current directors' and officers' liability insurance

## Table of Contents

policies maintained by Gemini with respect to any actual or alleged error, misstatement, misleading statement, act, omission, neglect, breach of duty or any matter claimed against the current and former officers and directors of Gemini.

### ITEM 16. *Exhibits and Financial Statement Schedules.*

#### (a) Exhibits

#### Exhibit Index

<u>Exhibit Number</u>	<u>Description</u>
1.1*	Form of Underwriting Agreement.
2.1	<a href="#"><u>Agreement and Plan of Merger and Reorganization, dated as of August 9, 2022, by and among Gemini Therapeutics, Inc., Gemstone Merger Sub, Inc. and Disc Medicine, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Proxy Statement/Prospectus on Form S-4 filed on September 2, 2022).</u></a>
3.1	<a href="#"><u>Amended and Restated Certificate of Incorporation of Disc Medicine, Inc. (incorporated by reference to Annex B to Gemini Therapeutics, Inc.'s Proxy Statement/Prospectus on Form S-4/A (Registration No. 333-249785)).</u></a>
3.2	<a href="#"><u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Disc Medicine, Inc., dated December 28, 2022 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on December 29, 2022).</u></a>
3.3	<a href="#"><u>Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Disc Medicine, Inc., dated December 29, 2022 (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on December 29, 2022).</u></a>
3.4	<a href="#"><u>Amended and Restated By-laws of Disc Medicine, Inc. (incorporated by reference to Annex C to Gemini Therapeutics, Inc.'s Proxy Statement/Prospectus on Form S-4/A (Registration No. 333-249785)).</u></a>
4.1	<a href="#"><u>Registration Rights Agreement, among Disc Medicine, Inc. and certain of its stockholders, dated December 28, 2022 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on December 29, 2022).</u></a>
4.2	<a href="#"><u>Registration Rights Agreement, dated February 5, 2021, by and among the Registrant and the stockholder parties thereto (incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-A12B/A filed on February 5, 2021).</u></a>
5.1**	<a href="#"><u>Opinion of Goodwin Procter LLP</u></a>
23.1**	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered accounting firm.</u></a>
23.2**	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered accounting firm.</u></a>
23.3**	<a href="#"><u>Consent of Goodwin Procter LLP (included as part of Exhibit 5.1).</u></a>
24.1**	<a href="#"><u>Power of Attorney (included on the signature page).</u></a>
107**	<a href="#"><u>Filing Fee Table</u></a>

\* To be filed, if necessary, subsequent to the effectiveness of this registration statement by an amendment to this registration statement or incorporated by reference pursuant to a Current Report on Form 8-K in connection with the offering of securities.

\*\* Filed herewith.

**Item 17. Undertakings**

(a) 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, as amended, or the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in the 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 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) above 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, as amended, or the Securities Exchange Act, that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, 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 to any purchaser:

(A) 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

(B) 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 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

## Table of Contents

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.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act) 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.

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

## SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Watertown, State of Massachusetts, on January 17, 2023.

### DISC MEDICINE, INC.

By: /s/ John Quisel  
Name: John Quisel, J.D., Ph.D.  
Title: Chief Executive Officer

## POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints each of John Quisel, J.D., Ph.D., Joanne Bryce, CPA and Rahul Khara, Pharm.D., J.D., acting alone or together with another attorney-in-fact, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for such person and in his or her name, place and stead, in any and all capacities, to sign any or all further amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ John Quisel</u> John Quisel, J.D., Ph.D.	Chief Executive Officer and Director (Principal Executive Officer)	January 17, 2023
<u>/s/ Joanne Bryce</u> Joanne Bryce, CPA	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	January 17, 2023
<u>/s/ Mona Ashiya</u> Mona Ashiya, Ph.D.	Director	January 17, 2023
<u>/s/ Jay Backstrom</u> Jay Backstrom, M.D., M.P.H.	Director	January 17, 2023
<u>/s/ Kevin Bitterman</u> Kevin Bitterman, Ph.D.	Director	January 17, 2023
<u>/s/ Mark Chin</u> Mark Chin, MS, MBA	Director	January 17, 2023
<u>/s/ Georges Gemayel</u> Georges Gemayel	Director	January 17, 2023
<u>/s/ Donald Nicholson</u> Donald Nicholson, Ph.D.	Director	January 17, 2023
<u>/s/ Liam Ratcliffe</u> Liam Ratcliffe, M.D., Ph.D.	Director	January 17, 2023
<u>/s/ William White</u> William White, MPP, J.D.	Director	January 17, 2023



January 17, 2023

Disc Medicine, Inc.  
321 Arsenal Street, Suite 101  
Watertown, MA 02472

Re: Securities Registered under Registration Statement on Form S-3

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-3 (as amended or supplemented, the "Registration Statement") filed on January 17, 2023 with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration by Disc Medicine, Inc., a Delaware corporation (the "Company"), of the offer and resale, from time to time, by the selling stockholders listed in the Registration Statement under "Selling Stockholders," of up to 12,635,956 shares of the Company's common stock, par value \$0.0001 per share (the "Shares").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinions set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and validly issued and are fully paid and non-assessable.

This opinion letter and the opinion it contains shall be interpreted in accordance with the Core Opinion Principles as published in *74 Business Lawyer* 815 (Summer 2019).

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption "Legal Matters" in the Registration Statement. In giving our consent, we do not admit that we are in 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/ Goodwin Procter LLP

---

GOODWIN PROCTER LLP

**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption “Experts” in the Registration Statement (Form S-3) and related Prospectus of Disc Medicine, Inc. for the registration of 12,635,956 shares of its common stock and to the incorporation by reference therein of our report dated March 10, 2022, with respect to the consolidated financial statements of Gemini Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2021, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts  
January 17, 2023

**Consent of Independent Registered Public Accounting Firm**

We consent to the reference to our firm under the caption “Experts” in the Registration Statement (Form S-3) and related Prospectus of Disc Medicine, Inc. for the registration of 12,635,956 shares of its common stock and to the incorporation by reference therein of our report dated March 25, 2022, with respect to the consolidated financial statements of Disc Medicine, Inc. included in Disc Medicine, Inc.’s Current Report on Form 8-K dated December 29, 2022, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts  
January 17, 2023

## Calculation of Filing Fee Table

Form S-3  
(Form Type)Disc Medicine, Inc.  
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered (1)	Proposed Maximum Offering Price Per Share (2)	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee (3)
Equity	Common Stock, \$0.0001 par value per share	Other	12,635,956 shares	\$18.705	\$236,355,556.98	\$0.0001102	\$26,046.38
Total Offering Amounts						\$236,355,556.98	—
Total Fees Previously Paid							—
Total Fee Offsets							—
Net Fee Due							\$26,046.38

- (1) Consists of 12,635,956 outstanding shares of the registrant's common stock. Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this registration statement also covers such additional shares as may hereafter be offered or issued to prevent dilution resulting from stock splits, stock dividends, recapitalizations or certain other capital adjustments.
- (2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act of 1933, as amended. The price per share and aggregate offering price are based on the average of the high and low prices of the registrant's common stock on January 12, 2023, as reported on Nasdaq.
- (3) Calculated pursuant to Section 6(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 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.