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

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**FORM S-1  
REGISTRATION STATEMENT**  
*UNDER  
THE SECURITIES ACT OF 1933*

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**Vor Biopharma Inc.**  
(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**2836**  
(Primary Standard Industrial  
Classification Code Number)

**81-1591163**  
(I.R.S. Employer  
Identification No.)

**100 Cambridgepark Drive  
Suite 400  
Cambridge, Massachusetts 02140  
(617) 655-6580**

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

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**Robert Ang, M.B.B.S.**  
**President and Chief Executive Officer**  
**Vor Biopharma Inc.**  
**100 Cambridgepark Drive  
Suite 400  
Cambridge, Massachusetts 02140  
(617) 655-6580**

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

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*Copies to:*

**Richard Segal  
Charles S. Kim  
Divakar Gupta  
Cooley LLP  
500 Boylston Street  
Boston, Massachusetts 02116  
(617) 937-2300**

**Peter N. Handrinos  
Nathan Ajiashvili  
Latham & Watkins LLP  
200 Clarendon Street  
Boston, Massachusetts 02116  
(617) 948-6000**

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**Approximate date of commencement of proposed sale to the public:** As soon as practicable after this Registration Statement is declared effective. 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, 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.  (333-252175)

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 post-effective amendment filed pursuant to Rule 462(d) 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.

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

Accelerated filer

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

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**CALCULATION OF REGISTRATION FEE**

<b>Title of Securities Being Registered</b>	<b>Amount to be Registered(1)</b>	<b>Proposed Maximum Aggregate Offering Price Per Share</b>	<b>Proposed Maximum Aggregate Offering Price</b>	<b>Amount of Registration Fee(2)</b>
Common Stock, \$0.0001 par value per share	1,155,159	\$18.00	\$20,792,862	\$2,269

- (1) Represents only the additional number of shares being registered and includes 150,672 shares of common stock issuable upon exercise of the underwriters' option to purchase additional shares. Does not include the securities that the Registrant previously registered on the Registration Statement on [Form S-1](#), as amended (File No. 333-252175).
- (2) The registration fee is calculated in accordance with Rule 457(a) under the Securities Act of 1933, as amended, based on the proposed maximum aggregate offering price. The registrant previously registered securities at an aggregate offering price not to exceed \$182,647,080 on a Registration Statement on Form S-1 (File No. 333-252175), which was declared effective by the Securities and Exchange Commission on February 4, 2021. In accordance with Rule 462(b) under the Securities Act, an additional amount of securities having a proposed maximum aggregate offering price of \$20,792,862 is hereby registered, which includes shares issuable upon the exercise of the underwriters' option to purchase additional shares.

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**This Registration Statement shall become effective upon filing in accordance with Rule 462(b) promulgated under the Securities Act of 1933, as amended.**

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**EXPLANATORY NOTE AND  
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE**

This Registration Statement is being filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the “Securities Act”), for the sole purpose of increasing the aggregate number of shares of common stock offered by Vor Biopharma Inc. (the “Registrant”) by 1,155,159 shares, 150,672 of which are subject to purchase upon exercise of the underwriters’ option to purchase additional shares of the Registrant’s common stock. The contents of the Registration Statement on Form S-1, as amended (File No. 333-252175), filed by the Registrant with the Securities and Exchange Commission (the “Commission”) pursuant to the Securities Act, which was declared effective by the Commission on February 4, 2021, are incorporated by reference into this Registration Statement.

The required opinion and consents are listed on the Exhibit Index attached hereto and filed herewith.

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**EXHIBIT INDEX**

<b><u>Exhibit Number</u></b>	<b><u>Description</u></b>
5.1	<a href="#"><u>Opinion of Cooley LLP</u></a>
23.1	<a href="#"><u>Consent of Ernst &amp; Young LLP, independent registered public accounting firm</u></a>
23.2	<a href="#"><u>Consent of Cooley LLP (included in Exhibit 5.1)</u></a>
24.1	<a href="#"><u>Power of Attorney (included on the signature page of the Registration Statement on Form S-1 (File No. 333-252175), originally filed with the Commission on January 15, 2021 and incorporated herein by reference)</u></a>

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the city of City of Cambridge, Commonwealth of Massachusetts, on this 5th day of February, 2021.

### VOR BIOPHARMA INC.

By: /s/ Robert Ang

Name: Robert Ang, M.B.B.S

Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Robert Ang</u> Robert Ang, M.B.B.S	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	February 5, 2021
<u>/s/ Nathan Jorgensen</u> Nathan Jorgensen, Ph.D.	Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	February 5, 2021
<u>*</u> Daniella Beckman	Director	February 5, 2021
<u>*</u> David C. Lubner	Director	February 5, 2021
<u>*</u> Sven (Bill) Ante Lundberg, M.D.	Director	February 5, 2021
<u>*</u> Kush M. Parmar, M.D., Ph.D.	Director	February 5, 2021
<u>*</u> Matthew Patterson	Director	February 5, 2021
<u>*</u> Joshua Resnick, M.D.	Director	February 5, 2021

\*By: /s/ Robert Ang

Robert Ang

*Attorney-in-Fact*



Richard Segal  
1 617 937 2332  
Rsegal@cooley.com

February 5, 2021

Vor Biopharma Inc.  
100 Cambridgepark Drive, Suite 400  
Cambridge, MA 02140

Ladies and Gentlemen:

We have acted as counsel to Vor Biopharma Inc., a Delaware corporation (the "**Company**"), in connection with the filing by the Company of a Registration Statement on Form S-1 (as amended, the "**Registration Statement**") with the Securities and Exchange Commission pursuant to Rule 462(b) of Regulation C promulgated under the Securities Act of 1933, as amended, relating to an underwritten public offering of up to 1,155,159 shares of the Company's common stock, par value \$0.0001 per share, to be sold by the Company (the "**Shares**"). The Registration Statement incorporates by reference the Registration Statement on Form S-1 (No. 333-252175), which was declared effective on February 4, 2021 (the "**Prior Registration Statement**"), including the prospectus which forms a part of the Prior Registration Statement (the "**Prospectus**").

In connection with this opinion, we have examined and relied upon (a) the Registration Statement, the Prior Registration Statement and the Prospectus, (b) the Company's Amended and Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws, each as currently in effect, (c) the Company's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, filed as Exhibits 3.3 and 3.4 to the Prior Registration Statement, respectively, each of which is to be in effect upon the closing of the offering contemplated by the Registration Statement and (d) originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials and the due authorization, execution and delivery of all documents by all persons other than the Company where authorization, execution and delivery are prerequisites to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of officers of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued against payment therefor as described in the Registration Statement and the Prospectus, will be validly issued, fully paid and non-assessable.

Cooley LLP 500 Boylston Street 14<sup>th</sup> Floor Boston, MA 02116  
t: (617) 937-2300 f: (650) 937-2400 cooley.com



Vor Biopharma Inc.  
February 5, 2021  
Page Two

We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus included in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ Richard Segal  
Richard Segal

Cooley LLP 500 Boylston Street 14th Floor Boston, MA 02116  
t: (617) 937-2300 f: (650) 937-2400 cooley.com

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-1 filed pursuant to Rule 462(b) of the Securities Act of 1933 of the reference to our firm under the caption “Experts” and to the incorporation by reference of our report dated November 6, 2020 (except for the reverse stock split described in Note 17, as to which the date is February 1, 2021) with respect to the financial statements of Vor Biopharma Inc. included in Amendment No. 2 to the Registration Statement (Form S-1 No. 333-252175) and related Prospectus of Vor Biopharma Inc. for the registration of its common stock.

/s/ Ernst & Young LLP

Boston, Massachusetts

February 4, 2021