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BY EDGAR

**\*FOIA Confidential Treatment Request\***  
**Confidential Treatment Requested by Vor Biopharma Inc.**  
**in connection with Registration Statement on Form S-1 (File No. 333-252175)**

January 21, 2021

U.S. Securities and Exchange Commission  
Office of Life Sciences  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549

**Re: Vor Biopharma Inc.**  
**Registration Statement on Form S-1**  
**Filed January 15, 2021**  
**File No. 333-252175**

Ladies and Gentlemen:

On behalf of Vor Biopharma Inc. (the "**Company**"), we are submitting this supplemental letter in further response to comment 9 received from the staff (the "**Staff**") of the Securities and Exchange Commission (the "**Commission**") by letter dated December 3, 2020 (the "**Comment Letter**") with respect to the Company's Confidential Draft Registration Statement on Form S-1 originally submitted to the Commission on November 6, 2020, resubmitted to the Commission on December 18, 2020, and subsequently filed with the Commission on January 15, 2021 (the "**Registration Statement**").

Due to the commercially sensitive nature of information contained in this letter, this submission is accompanied by the Company's request for confidential treatment for selected portions of this letter. The Company has filed a separate letter with the Office of Freedom of Information and Privacy Act Operations in connection with the confidential treatment request pursuant to Rule 83 of the Commission's Rules on Information and Requests, 17 C.F.R. § 200.83. For the Staff's reference, we have enclosed a copy of the Company's letter to the Office of Freedom of Information and Privacy Act Operations as well as a copy of this correspondence, marked to show the portions redacted from the version filed via EDGAR and for which the Company is requesting confidential treatment.

For the convenience of the Staff, we have recited the prior comment from the Staff in italicized type and have followed the comment with the Company's response.

*Management's Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Significant Judgments and Estimates Stock-Based Compensation, page 114*

*9. Once you have an estimated offering price or range, please explain to us how you determined the fair value of the common stock underlying your equity issuances and the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features. Please discuss with the staff how to submit your response.*

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## **Preliminary Price Range**

The Company advises the Staff that the Company currently expects a price range of \$[\*] to \$[\*] per share of common stock (the “**Preliminary Price Range**”) for its initial public offering (“**IPO**”). The Preliminary Price Range is based in part upon the Company’s prospects, prospects for the biotechnology industry, the general condition of the securities markets and the recent market prices of, and the demand for, publicly traded shares of generally comparable companies in the biotechnology industry, as well as input received from Goldman Sachs & Co. LLC, Evercore Group L.L.C., Barclays Capital Inc. and Stifel, Nicolaus & Company, Incorporated, the underwriters (the “**Representatives**”) for the IPO. The Company notes that, as is typical in IPOs, the Preliminary Price Range for the Company’s IPO was not derived using a formal determination of fair value but was determined by discussions between the Company and the Representatives based on the assessment of the foregoing factors. The Preliminary Price Range also does not reflect any stock split (or reverse stock split) that may be effected by the Company prior to the IPO; however, the Company would not expect any such stock split (or reverse stock split) to impact the Preliminary Price Range in any manner other than to decrease (or increase) it in proportion to the stock split (or reverse stock split) itself. The parameters of the bona fide price range to be included in the Registration Statement at the time of the commencement of the Company’s road show will be subject to then-current market conditions, continuing discussions with the Representatives and material business developments impacting the Company, and due to the volatility in the securities markets. In any event, the Company confirms to the Staff that the bona fide price range will comply with Item 501(b)(3) of Regulation S-K and CD&I 134.04.

## **Determinations of the Fair Value of Common Stock**

As there has been no public market for the Company’s common stock to date, the estimated fair value of its common stock has been determined by the Board, as of the date of each option grant, with input from management, considering the Company’s most recent arm’s-length sales of its preferred stock and the most recent third-party valuation of its common stock, as well as the Board’s assessment of additional objective and subjective factors that the Board believed were relevant and which may have changed from the date of the most recent third-party valuation through the date of the grant. The Board considered various objective and subjective factors to determine the fair value of the common stock as of each grant date, including:

- contemporaneous valuations performed by an independent third-party valuation firm;
- the Company’s stage of development and material risks related to its business;
- the progress of the Company’s research and development programs, including the status and results of preclinical studies for its product candidates;
- the Company’s’ business conditions and projections;
- sales of the Company’s preferred stock;
- the rights, preferences and privileges of the Company’s preferred stock relative to its common stock;
- lack of marketability of its common and preferred stock as a private company;
- the Company’s operating results and financial performance;
- the likelihood of achieving a liquidity event, such as an IPO or sale, in light of prevailing market conditions;
- the trends, developments and conditions in the life sciences and biotechnology industry sectors;

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- analysis of initial public offerings and the market performance and stock price volatility of similar public companies in the life sciences and biopharmaceutical sectors; and
- the economy in general.

The third-party valuations of the Company's common stock that the Board considered in making its determinations were prepared in accordance with the American Institute of Certified Public Accountants Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation* (the "**Practice Guide**"), which prescribes several valuation approaches for determining the value of an enterprise, such as the cost, market and income approaches, and various methodologies for allocating the value of an enterprise to its capital structure and specifically the common stock.

In accordance with the Practice Guide, the Company considered the following methods for determining and allocating the enterprise value across its classes and series of capital stock to determine the fair value of its common stock at each valuation date.

- *Option Pricing Method ("OPM")*. The OPM estimates the value of the common equity of the Company using the various inputs in the Black-Scholes option pricing model. The OPM treats the rights of the holders of common stock as equivalent to that of call options on any value of the enterprise above certain break points of value based upon the liquidation preferences of the holders of the Company's preferred stock, as well as their rights to participation, and the stock prices of the outstanding options. Thus, the value of the common stock can be determined by estimating the value of its portion of each of these call option rights. Under this method, the common stock has value only if the funds available for distribution to stockholders exceed the value of the liquidation preference at the time of a liquidity event, such as a merger or sale. Given the common stock represents a non-marketable equity interest in a private enterprise, an adjustment to the preliminary value estimates had to be made to account for the lack of liquidity that a stockholder experiences. This adjustment is commonly referred to as a discount for lack of marketability ("**DLOM**").
- *Probability-Weighted Expected Return Method ("PWERM")*. The PWERM is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes considered by the Company, as well as the economic and control rights of each share class.
- *Hybrid Method*. The hybrid method is a weighted-average method that combines both OPM and PWERM. Weighting allocations are assigned to the OPM and PWERM methods factoring in possible future liquidity events.

As of each award date set forth in the table below under "Summary of Recent Equity Awards," the Board evaluated any recent events and their potential impact on the estimated fair value per share of the Company's common stock. For grants of stock awards made on dates for which there was no contemporaneous independent third-party valuation, the Board determined the fair value of the Company's common stock on the date of grant taking into consideration the immediately preceding independent third-party valuation report as well as other pertinent information available to it at the time of the grant. The valuation methodology used in valuations through June 30, 2020 was the OPM, and after June 30, 2020, the valuation methodology changed to the hybrid method, as the Company had better visibility into the near-term timing of a potential IPO, but still considered the uncertainty around the Company's value should an IPO not occur.

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## **Fair Value Reassessment**

In the course of preparing the Company's financial statements for the nine months ended September 30, 2020, the Company considered the fair value of common stock for purposes of stock options granted in August 2020. The Company evaluated the use of the contemporaneous valuation performed as of June 30, 2020 and determined that certain inputs utilized to determine the equity value as of June 30, 2020 should be updated as a result of certain developments in the business in August 2020, including initial discussions regarding a potential IPO. These developments impacted both the probability and expectations related to the timing of milestones triggering the sale of additional shares of its Series B Preferred Stock, and therefore were important to consider to reflect the fair value of the Company's common stock for financial reporting purposes for stock option grants in August 2020. As a result, the contemporaneous valuation as of June 30, 2020 was not utilized for financial reporting purposes.

## **Summary of Recent Equity Awards**

The following table summarizes all stock option awards granted by the Company since January 1, 2020, including the Company's reassessment of the fair value of its common stock for each option granted in August 2020, as described above:

<b>Option Grant Dates</b>	<b>Number of Shares Subject to Options Granted</b>	<b>Fair Value Per Common Share for Financial Reporting Purposes</b>	<b>Exercise Price</b>	<b>Intrinsic Value Per Underlying Common Share</b>
March 10, 2020	[*]	\$ [*]	\$ [*]	—
April 11, 2020	[*]	\$ [*]	\$ [*]	—
August 21, 2020	[*]	\$ [*](1)	\$ [*]	\$ [*]
August 25, 2020	[*]	\$ [*](1)	\$ [*]	\$ [*]
August 31, 2020	[*]	\$ [*](1)	\$ [*]	\$ [*]
September 15, 2020	[*]	\$ [*]	\$ [*]	—
October 22, 2020	[*]	\$ [*]	\$ [*]	—
November 18, 2020	[*]	\$ [*]	\$ [*]	—
December 11, 2020	[*]	\$ [*]	\$ [*]	—

- (1) At the time of this option grant, the Board determined the fair value of the Company's common stock after taking into account the Company's most recently available contemporaneous third-party valuation of its common stock as of such grant date, and other objective and subjective factors as appropriate. However, solely for financial reporting purposes, the fair value of the Company's common stock at the date of this grant was adjusted in connection with a retrospective fair value assessment using hindsight and an updated third-party valuation of its common stock as of such grant date, as further described under the subsection entitled "Fair Value Reassessment" above.

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The above table excludes an option, granted to an advisor of the Company on October 22, 2020, to purchase [\*] shares of common stock at an exercise price of \$[\*], which was higher than the fair market value of the Company's common stock of \$[\*] as determined by the Board. The option was granted with an exercise price greater than the fair market value in order to create additional long-term incentives for the advisor.

### **Summary of Methodologies and Third-Party Valuations**

The following is a summary of the methodologies used in determining the estimated fair values of the Company's common stock with the assistance of independent third-party valuation reports for the options listed above.

#### *February 5, 2020 Valuation (Used for March 10, 2020 and April 11, 2020 Option Grants)*

An independent third-party valuation specialist performed a contemporaneous valuation of the Company's common stock as of February 5, 2020, which determined a fair value of \$[\*] per share (the "**February 2020 Valuation**"). For the February 2020 Valuation, the third-party valuation first determined an equity value by applying (1) a growth factor based on the change in the market index and guideline company market capitalizations between the date of its prior valuation of the Company in February 2019 (which determined a fair value of \$[\*] per share) and the date of the February 2020 Valuation, (2) a valuation adjustment to reflect recent advancements in the Company's research and development activities, based on value decreases and increases of comparable companies after public announcements of similar advancements and (3) an adjustment for cash received in a milestone closing of a sale of the Company's Series A-2 Preferred stock in February 2020. Then, the OPM was used to allocate the equity value across the Company's classes and series of capital stock to determine the fair value of the Company's common stock. In determining the total implied equity value under the OPM, the Company used an estimated volatility of [\*]%, an estimated time to liquidity of [\*] years, based on management's then best estimates of a liquidity event at such time, and a DLOM of [\*]%

On March 10, 2020 and April 11, 2020, the Board granted options to purchase [\*] and [\*] shares of common stock, respectively, at exercise prices equal to \$[\*] per share. In determining the exercise price, the Board considered input from management, the objective and subjective criteria discussed above and the February 2020 Valuation. For the period from the date of the February 2020 Valuation through each of March 10, 2020 and April 11, 2020, the Board determined there were no internal or external developments since the February 2020 Valuation that warranted a change in the estimated fair value of the Company's common stock, based, in part, upon a lack of significant new milestones and of additional fundraising events.

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*June 30, 2020 Valuations (Used for August 2020 Option Grants and for Reassessment of Options Granted During August 2020)*

An independent third-party valuation specialist performed a contemporaneous valuation of the Company's common stock as of June 30, 2020, which determined a fair value of \$[\*] per share (the "**Original June 2020 Valuation**"). The Original June 2020 Valuation was dated July 30, 2020. The decrease in fair value from the February 2020 Valuation was primarily the result of the use of the backsolve method to determine the equity value of the Company as a result of the Series B Preferred Stock financing that occurred in June 2020 and included several unrelated third-party investors as further discussed below, rather than an approach based on the guideline company market capitalizations adjusted to reflect recent advancements in the Company's research and development activities used in the February 2020 Valuation. An independent third-party valuation specialist performed an updated valuation of the Company's common stock as of June 30, 2020, which determined a fair value of \$[\*] per share (the "**Updated June 2020 Valuation**"). The Updated June 2020 Valuation was dated October 16, 2020.

For the Original June 2020 Valuation and the Updated June 2020 Valuation, the Company utilized the OPM to derive the implied equity value for the Company, and specifically the backsolve method to determine the implied total equity value of the Company. The backsolve method reflected the Company's closing of the sale of [\*] shares of its Series B Preferred Stock at a price of \$[\*] per share in June 2020 and the obligation of certain holders of Series B Preferred Stock to purchase an additional [\*] shares of Series B Preferred Stock upon the acceptance by the U.S. Food & Drug Administration of the Company's Investigational New Drug application ("**IND**"). The backsolve method treated the obligation to purchase additional shares as a forward contract, with an estimated value established assuming a probability of reaching the milestone.

Under the Updated June 2020 Valuation, the probability of achieving the funding milestone was assumed to be [\*]%, due to progress made by the Company toward filing the IND, and the estimated value of the Series B Preferred Stock upon achieving the milestone was assumed to be \$[\*] per share. The implied equity value for the Company was then adjusted for the estimated value of the milestone obligation. In determining the total implied equity value under the backsolve method, the Company used an estimated volatility of [\*]%, an estimated time to liquidity of [\*] years, based on management's then best estimates of a liquidity event at such time, and a DLOM of [\*]%.

On August 21, 2020, August 25, 2020 and August 31, 2020, the Board granted options to purchase [\*], [\*] and [\*] shares of common stock, respectively, at exercise prices equal to \$[\*] per share, the fair value of the Company's common stock from the Original June 2020 Valuation. As discussed under "Fair Value Reassessment" above, with reference to the Updated June 2020 Valuation, the Company subsequently reassessed the fair value of its common stock solely for financial reporting purposes for options granted during August 2020 to be \$[\*] per share.

*September 9, 2020 Valuation (Used for September 15, 2020 and October 22, 2020 Option Grants)*

An independent third-party valuation specialist performed a contemporaneous valuation of the Company's common stock as of September 9, 2020, which determined a fair value of \$[\*] per share (the "**September 2020 Valuation**"). For the September 2020 Valuation, the Company estimated the fair value of the Company's common stock using the hybrid method. The hybrid method enabled the Company to address two probability-weighted scenarios: (1) a stay private scenario leading to a sale, weighted at [\*]%, and valued using the OPM, and (2) an IPO scenario assuming an IPO in [\*], weighted at [\*]%, and valued using the PWERM.

In the stay-private scenario, the third-party valuation first determined an equity value by applying a growth factor based on the change in the market index and guideline company market capitalizations between the date of the Updated June 2020 Valuation and the September 2020 Valuation, as well as the Company's progress toward key milestones, including the filing of the IND. Then, the OPM was used to allocate the equity value across the Company's classes and series of capital stock to determine the fair value of the Company's common stock. In determining the total implied equity value under the OPM, the Company used an estimated volatility of [\*]%, and an estimated time to liquidity of [\*] years, based on management's then best estimates of a liquidity event at such time. In the stay-private scenario the value of the Company's common stock was determined to be \$[\*] per share on a marketable basis as of September 9, 2020. The third-party valuation then applied a [\*]%, DLOM to adjust the value, which indicated the value of the Company's common stock on a non-marketable basis to be \$[\*] per share as of September 9, 2020.

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For the IPO scenario, the future equity value of the Company was estimated based largely on valuation step-up benchmarks from recent IPOs in the life-sciences industry. The future equity value was allocated to the outstanding shares of preferred stock and the common stock, based on the rights and preferences of each class of equity. The Company then discounted the value of each class of equity at an appropriate risk-adjusted rate, resulting in a value of the common stock of \$[\*] per share on a marketable basis. The third-party valuation then applied a DLOM of [\*]% to adjust the value, which indicated the value of the Company's common stock to be \$[\*] per share on a non-marketable basis. The Company deemed it appropriate to include a [\*]% weighting for the IPO scenario due to the state of its IPO process and its IND filing preparations. The Company intended to go public in the first quarter of 2021, after the anticipated submission of its IND, which provided the Company with visibility into the probability and timing of an IPO. However, the IND submission faced substantial risks and uncertainties, including related to development and manufacturing scale up activities, which are typical for cell and gene therapies, as well as the ongoing COVID-19 pandemic.

On September 15, 2020 and October 22, 2020, the Company granted options to purchase [\*] shares and [\*] shares of common stock, respectively, at an exercise price of \$[\*] per share. In determining the exercise price, the Board considered input from management as well as the objective and subjective criteria discussed above and the September 2020 Valuation. For the period from the date of the September 2020 Valuation through September 15, 2020 and October 22, 2020, the Board determined there were no internal or external developments since the September 2020 Valuation that warranted a change in the estimated fair value of the Company's common stock, based, in part, upon a lack of significant new milestones. Management's forecasted operating results remained substantially unchanged from the September 2020 Valuation date through October 22, 2020. The Company's determination of an IPO scenario as an exit strategy for the Company had not changed since the September 2020 Valuation. As a result, the Board determined that the fair market value of the Company's common stock was \$[\*] per share as of each of September 15, 2020 and October 22, 2020.

*November 6, 2020 Valuation (Used for November 18, 2020 and December 11, 2020 Option Grants)*

An independent third-party valuation specialist performed a contemporaneous valuation of the Company's common stock as of November 6, 2020, which determined a fair value of \$[\*] per share (the "**November 2020 Valuation**"). For the November 2020 Valuation, the Company estimated the fair value of the common stock by using the hybrid method to address two probability-weighted scenarios: (1) a stay private scenario leading to a sale, weighted at [\*]% and valued using the OPM, and (2) an IPO scenario assuming an IPO in [\*], weighted at [\*]% and valued using the PWERM.

In the stay-private scenario, the third-party valuation first determined an equity value by applying (1) a growth factor based on the change in the market index and guideline company market capitalizations between the date of the September 2020 Valuation and the November 2020 Valuation and (2) a valuation adjustment to reflect the Company's continued progress toward filing an IND and its entry into a license agreement in November 2020, based on value decreases and increases of comparable companies after public announcements of similar milestones. Then, the OPM was used to allocate the equity value across the Company's classes and series of capital stock to determine the fair value of the Company's common stock. In determining the total implied equity value under the OPM, the Company used an estimated volatility of [\*]% and an estimated time to liquidity of [\*] years, based on management's then best estimates of a liquidity event at such time. In the stay-private scenario the value of the Company's common stock was determined to be \$[\*] per share on a marketable basis as of November 6, 2020. The third-party valuation then applied a [\*]% DLOM to adjust the value, which indicated the value of the Company's common stock on a non-marketable basis to be \$[\*] per share as of November 6, 2020.

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For the IPO scenario, the future equity value of the Company was estimated based largely on valuation step-up benchmarks from recent IPOs in the life-sciences industry. The future equity value was allocated to the outstanding shares of preferred stock and the common stock, based on the rights and preferences of each class of equity. The Company then discounted the value of each class of equity at an appropriate risk-adjusted rate, resulting in a value of the common stock of \$[\*] per share on a marketable basis. The third-party valuation then applied a DLOM of [\*]% to adjust the value, which indicated the value of the Company's common stock to be \$[\*] per share on a non-marketable basis.

The Company deemed it appropriate to include a [\*]% weighting for the IPO scenario, an increase from [\*]% in the September 2020 Valuation, because the Company confidentially submitted a Draft Registration Statement on November 6, 2020, with the intent to go public in the first quarter of 2021, and because the Company had made progress toward filing an IND.

On November 18, 2020 and December 11, 2020, the Company granted options to purchase [\*] shares and [\*] shares of common stock, respectively, at an exercise price of \$[\*] per share. In determining the exercise price, the Board considered input from management as well as the objective and subjective criteria discussed above and the November 2020 Valuation. For the period from the date of the November 2020 Valuation through December 11, 2020, the Board determined there were no internal or external developments since the November 2020 Valuation that warranted a change in the estimated fair value of the Company's common stock, based, in part, upon a lack of significant new milestones. Management's forecasted operating results remained substantially unchanged from the November 2020 Valuation date through December 11, 2020. The Company's determination of an IPO scenario as an exit strategy for the Company had not changed since the November 2020 Valuation. As a result, the Board determined that the fair market value of the Company's common stock was \$[\*] per share as of each of November 18, 2020 and December 11, 2020.

### **Explanation of Difference Between Recent Valuations of the Fair Value of Common Stock and the Midpoint of the Preliminary Price Range**

The Company believes that the difference in value reflected between the recent valuations of the fair value of its common stock and the Preliminary Price Range is the result of the following key factors, among others:

- The Company submitted an IND application for its lead product candidate, VOR33, in December 2020, and the IND was accepted by the FDA in January 2021.
- An increased probability of consummating the IPO since the last contemporaneous valuation of the Company's common stock as of November 6, 2020, based on the Company's public filing of its Registration Statement on January 15, 2021.
- The Preliminary Price Range assumes a successful IPO in the near term with no weighting attributed to any other outcome for the Company's business, such as remaining a privately-held company and being sold in a sale transaction.
- The Preliminary Price Range represents a future price for the common stock that, if issued in the Company's IPO, would be immediately freely tradable in a public market, whereas the estimated fair value of the common stock based on the valuations between February 2020 and November 2020 represents an estimate of the fair value of the shares that were then illiquid, might never become liquid, might be for shares that are never publicly traded and, even if an IPO were to be successfully completed, would remain illiquid at least until the expiration of the 180-day lockup period following the IPO. Additionally, the Preliminary Price Range reflects that, upon a successful IPO, the Company's preferred shares will convert into common shares and will no longer have the liquidation preferences and preferential rights attributable to the preferred shares as compared to the common shares prior to the IPO.

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- Updated market conditions used in the determination of the Preliminary Price Range after discussions with the Representatives, based on the current market environment and the supply and demand for such investment opportunities in the marketplace.
- The successful completion of the IPO would strengthen the Company's balance sheet, provide access to public equity and provide enhanced operational flexibility, increasing the value of the Company's common stock compared to that of a private company.

The Preliminary Price Range reflects the fact that investors may be willing to purchase shares in the IPO at a per share price that takes into account other factors that were not expressly considered in the Company's prior valuations as a private company, and are not objectively determinable and that valuation models are not able to quantify with any level of certainty.

#### Conclusion

In light of the above, the Company respectfully submits that the per share grant date fair values, as set forth in the table above under "Summary of Recent Equity Awards," which have been used as the basis for determining the stock-based compensation in connection with its stock option grants since January 1, 2020, were reasonable and appropriate for the reasons described herein and in the Registration Statement.

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Please contact me at (617) 937-2332 or Charles S. Kim at (858) 550-6049 with any questions or further comments regarding our response to the Staff's comment.

Sincerely,

/s/ Richard Segal

Richard Segal

cc: Robert Ang, Vor Biopharma Inc.  
Charles S. Kim, Cooley LLP  
Divakar Gupta, Cooley LLP  
Peter N. Handrinos, Latham & Watkins LLP  
Nathan Ajiashvili, Latham & Watkins LLP

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