

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL	
OMB Number:	3235-0104
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>RA CAPITAL MANAGEMENT, L.P.</u> (Last) (First) (Middle) 200 BERKELEY STREET, 18TH FLOOR (Street) BOSTON MA 02116 (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 02/04/2021	3. Issuer Name and Ticker or Trading Symbol <u>Vor Biopharma Inc. [VOR]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
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Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
Series A-2 Preferred Stock	(1)	(1)	Common Stock	1,644,549	(1)	I	See Footnote ⁽²⁾⁽⁴⁾
Series A-2 Preferred Stock	(1)	(1)	Common Stock	280,330	(1)	I	See Footnote ⁽³⁾⁽⁴⁾
Series B Preferred Stock	(1)	(1)	Common Stock	3,784,120	(1)	I	See Footnote ⁽²⁾⁽⁴⁾
Series B Preferred Stock	(1)	(1)	Common Stock	1,414,026	(1)	I	See Footnote ⁽³⁾⁽⁴⁾

1. Name and Address of Reporting Person* <u>RA CAPITAL MANAGEMENT, L.P.</u> (Last) (First) (Middle) 200 BERKELEY STREET, 18TH FLOOR (Street) BOSTON MA 02116 (City) (State) (Zip)		
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1. Name and Address of Reporting Person* <u>RA Capital Healthcare Fund LP</u> (Last) (First) (Middle) 200 BERKELEY STREET, 18TH FLOOR (Street) BOSTON MA 02116 (City) (State) (Zip)		
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1. Name and Address of Reporting Person*

Kolchinsky Peter

(Last) (First) (Middle)

C/O RA CAPITAL MANAGEMENT, L.P.
200 BERKELEY STREET, 18TH FLOOR

(Street)

BOSTON MA 02116

(City) (State) (Zip)

1. Name and Address of Reporting Person*

Shah Rajeev M.

(Last) (First) (Middle)

C/O RA CAPITAL MANAGEMENT, L.P.
200 BERKELEY STREET, 18TH FLOOR

(Street)

BOSTON MA 02116

(City) (State) (Zip)

Explanation of Responses:

1. Each share of Series A-2 Preferred Stock and Series B Preferred Stock is convertible at any time at the option of the holder, without payment of additional consideration, into Common Stock, on a 13.6-for-one basis, has no expiration date and will automatically convert into shares of Common Stock upon the closing of the Issuer's initial public offering.
2. These securities are held directly by RA Capital Healthcare Fund, L.P. (the "Fund").
3. These securities are held directly by RA Capital Nexus Fund, L.P. (the "Nexus Fund").
4. RA Capital Management, L.P. (the "Adviser") is the investment manager for the Fund and the Nexus Fund. The general partner of the Adviser is RA Capital Management GP, LLC (the "Adviser GP"), of which Dr. Peter Kolchinsky and Mr. Rajeev Shah are the managing members. The Adviser, the Adviser GP, Dr. Kolchinsky and Mr. Shah disclaim beneficial ownership of any of the reported securities, except to the extent of their pecuniary interest therein.

/s/ Peter Kolchinsky,
Manager of RA Capital 02/04/2021
Management, L.P.

/s/ Peter Kolchinsky,
Manager of RA Capital
Healthcare GP, LLC, the 02/04/2021
General Partner of RA
Capital Healthcare Fund,
L.P.

/s/ Peter Kolchinsky 02/04/2021

/s/ Rajeev Shah 02/04/2021

** Signature of Reporting Date
Person

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.