

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

February 2, 2021

VIA EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549
Attn: Eric Atallah
Kevin Kuhar
Joe McCann
Margaret Schwartz

RE: Vor Biopharma Inc.
Registration Statement on Form S-1
File No. 333-252175

Acceleration Request

Requested Date: February 4, 2021
Requested Time: 4:00 P.M. Eastern Time

Ladies and Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended, the undersigned registrant (the "**Registrant**") hereby requests that the Securities and Exchange Commission take appropriate action to cause the above-referenced Registration Statement on Form S-1 (the "**Registration Statement**") to become effective on February 4, 2021, at 4:00 p.m., Eastern Time, or as soon thereafter as is practicable.

Once the Registration Statement has been declared effective, please orally confirm that event with Richard Segal of Cooley LLP, counsel to the Registrant, at (617) 937-2332 or, in his absence, Layne Jacobs of Cooley LLP at (617) 937-2321.

[Signature Page Follows]

Very truly yours,

Vor Biopharma Inc.

/s/ Robert Ang

Robert Ang
Chief Executive Officer

cc: Richard Segal, Cooley LLP
Charles S. Kim, Cooley LLP

[Signature Page to Acceleration Request]