

May 4, 2022

**Via EDGAR**

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

**Re: Unity Biotechnology, Inc.  
Registration Statement on Form S-3  
Filed March 15, 2022  
File No. 333-263574**

Ladies and Gentlemen:

In accordance with Rule 461 of Regulation C of the General Rules and Regulations under the Securities Act of 1933, as amended, we hereby request the acceleration of the effective date of the above-referenced Registration Statement so that it will become effective on May 6, 2022, at 4:30 p.m., Washington, D.C. Time, or as soon thereafter as practicable, or at such later time as Unity Biotechnology, Inc. (the "Company") or its counsel may request via telephone call to the staff. Please contact Brian Cuneo of Latham & Watkins LLP, counsel to the Company, at (650) 463-3014, to provide notice of effectiveness, or if you have any other questions or concerns regarding this matter.

Thank you for your assistance in this matter.

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Sincerely,

**Unity Biotechnology, Inc.**

By: /s/ Alexander Nguyen

Alexander Nguyen  
General Counsel

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cc: Anirvan Ghosh, Ph.D., Unity Biotechnology, Inc.  
Lynn Sullivan, Unity Biotechnology, Inc.  
Brian Cuneo, Latham & Watkins LLP