

Unity Biotechnology, Inc.  
3280 Bayshore Blvd  
Brisbane, California 94005

April 30, 2018

**VIA EDGAR AND E-MAIL**

United States Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549-6010

Attention: Suzanne Hayes, Assistant Director  
James Rosenberg, Senior Assistant Chief Accountant  
Jeffrey Gabor, Staff Attorney  
Ada Sarmiento, Staff Attorney  
Lisa Vanjoske, Assistant Chief Accountant  
Vanessa Robertson, Senior Staff Accountant

**Re: Unity Biotechnology, Inc. Registration Statement on Form S-1 (Registration No. 333-224163)**

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 acceleration of the effective date of the Registration Statement on Form S-1 (File No. 333-224163) (the "**Registration Statement**") of Unity Biotechnology, Inc. (the "**Company**"). We respectfully request that the Registration Statement become effective as of 4:00 p.m., Washington, D.C. time, on May 2, 2018, or as soon as practicable thereafter. Once the Registration Statement has been declared effective, please orally confirm that event with our counsel, Latham & Watkins LLP, by calling Brian Cuneo at (650) 463-3014.

Thank you for your assistance in this matter.

Very truly yours,

**Unity Biotechnology, Inc.**

By: /s/ Keith R. Leonard  
Keith R. Leonard Jr.  
Chief Executive Officer

CC: Tamara L. Tompkins, Unity Biotechnology, Inc.  
Alan C. Mendelson, Latham & Watkins LLP  
Mark V. Roeder, Latham & Watkins LLP  
Brian J. Cuneo, Latham & Watkins LLP  
Alan F. Denenberg, Davis Polk & Wardwell LLP