

**YIELD10 BIOSCIENCE, INC.**  
**19 Presidential Way**  
**Woburn, Massachusetts 01801**

July 7, 2023

**VIA EDGAR**

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, NE  
Washington, D.C. 20549

**RE: Yield10 Bioscience, Inc.**  
**Registration Statement on Form S-1**  
**File No. 333-273070**

To Whom It May Concern:

Reference is made to the Registration Statement on Form S-1 (File No. 333-273070) filed by Yield10 Bioscience, Inc. (the "Company") with the Securities and Exchange Commission on June 30, 2023 (the "Registration Statement"). Pursuant to Rule 473(a) of the Securities Act of 1933, as amended, the following delaying amendment, prescribed by Rule 473(a) of the Act, is hereby incorporated into the facing page of the Registration Statement:

***The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.***

The Company requests that the Staff contact Joel I. Papernik, Esq., securities counsel to the Company, at (212) 935-3000 with any questions or comments.

YIELD10 BIOSCIENCE, INC.

*/s/ Oliver P. Peoples, Ph.D.*

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Oliver P. Peoples, Ph.D.

President and Chief Executive Officer

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