

**Ladenburg Thalmann & Co. Inc.**  
999 Vanderbilt Beach Road, Suite 200  
Naples, Florida 34108

December 18, 2017

**VIA FACSIMILE AND EDGAR**

U.S. Securities and Exchange Commission  
Division of Corporate Finance  
Washington, DC 20549

**Re: YIELD10 BIOSCIENCE, INC.**  
**Registration Statement on Form S-1 (Registration No. 333-221283)**  
**Concurrence in Acceleration Request**

Ladies and Gentlemen:

Ladenburg Thalmann & Co. Inc. ("Ladenburg"), as representative of the underwriters for the referenced offering, hereby concurs in the request by Yield10 Bioscience, Inc. that the effective date of the above-referenced registration statement be accelerated to 5:30 p.m. (Eastern Time), or as soon as practicable thereafter, on December 18, 2017, pursuant to Rule 461 under the Securities Act. Ladenburg affirms that it is aware of its obligations under the Securities Act in connection with this offering.

Very truly yours,

**LADENBURG THALMANN & CO. INC.**

By: /s/ Nicholas Stergis  
Name: Nicholas Stergis  
Title: Managing Director

---