



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

DIVISION OF  
CORPORATION FINANCE

Mail Stop 4720

April 1, 2016

Joshua R. Disbrow  
Chief Executive Officer  
Aytu Bioscience, Inc.  
373 Inverness Parkway, Suite 206  
Englewood, Colorado 80112

**Re: Aytu Bioscience, Inc.  
Preliminary Proxy Statement on Schedule 14A  
Filed March 15, 2016  
File No. 000-53121**

Dear Mr. Disbrow:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes  
Assistant Director  
Office of Healthcare and Insurance

cc: Alexander M. Donaldson, Esq.  
Wyrick Robbins Yates & Ponton LLP