



DIVISION OF
CORPORATION FINANCE

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

December 8, 2015

Mail Stop 4631

Via E-mail

Tyler W. Painter
Chief Operating Officer and Chief Financial Officer
Solazyme, Inc.
225 Gateway Blvd.
South San Francisco, CA 94080

Re: Solazyme, Inc.
Form 10-K for Fiscal Year Ended December 31, 2014
Filed March 6, 2015
Form 10-Q for Fiscal Quarter Ended March 31, 2015
Filed May 8, 2015
File No. 1-35189

Dear Mr. Painter:

We have completed our review of your filings. 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 filings 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 filings to be certain that the filings includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Terence O'Brien

Terence O'Brien
Branch Chief
Office of Manufacturing and
Construction