



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3561

August 22, 2017

Via E-mail

Sean E. George, Ph.D
President and Chief Executive Officer
Invitae Corporation
1400 16th Street
San Francisco, CA 94103

**Re: Invitae Corporation
 Registration Statement on Form S-3
 Filed August 18, 2017
 File No. 333-220053**

Dear Dr. George:

This is to advise you that we have not reviewed and will not review your registration statement.

Please refer to Rules 460 and 461 regarding requests for acceleration. We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Please contact Michael Killoy at (202) 551-7576 with any questions.

Sincerely,

/s/ James Lopez (for)

John Reynolds
Assistant Director
Office of Beverages, Apparel,
and Mining

cc: Mike Hird, Esq.
 Pillsbury Winthrop Shaw Pittman LLP