



DIVISION OF
CORPORATION FINANCE

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

June 4, 2021

Anthony Quinn, M.B Ch.B, Ph.D.
Chief Executive Officer
Aeglea BioTherapeutics, Inc.
805 Las Cimas Parkway
Suite 100
Austin, TX 78746

Re: Aeglea BioTherapeutics, Inc.
Registration Statement on Form S-3
Filed May 28, 2021
File No. 333-256614

Dear Dr. Quinn:

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 Alan Campbell at 202-551-4224 with any questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Ryan Mittenness, Esq.