

Stellar Biotechnologies, Inc.
332 E. Scott Street
Port Hueneme, California 93041

September 26, 2016

By EDGAR

Securities and Exchange Commission
Attention: Suzanne Hayes
Assistant Director
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Re: Stellar Biotechnologies, Inc.
Registration Statement on Form S-3
File No. 333-213654

Dear Ms. Hayes:

Pursuant to Rule 461 under the Securities Act of 1933, the undersigned registrant (the "Registrant") hereby respectfully requests that the above-referenced Registration Statement on Form S-3 be declared effective at 4:00 p.m. (Washington, D.C. time) on Wednesday, September 28, 2016, or as soon as practicable thereafter. An oral request for acceleration of effectiveness may be made in the future. The Registrant is aware of its obligations under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended.

In connection with the Registrant's request for acceleration of effectiveness of the above-referenced Registration Statement on Form S-3, the Registrant acknowledges that:

- should the Securities and Exchange Commission (the "Commission") or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Registrant from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the Registrant may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

If you have any questions regarding this request, please contact the undersigned at (805) 488-2800 or Barbara A. Jones of Greenberg Traurig, LLP at (617) 310-6064.

Sincerely,

STELLAR BIOTECHNOLOGIES, INC.

By: /s/ Kathi Niffenegger
Name: Kathi Niffenegger
Title: Chief Financial Officer
