

SIDLEY AUSTIN LLP 787 SEVENTH AVENUE NEW YORK, NY 10019 +1 212 839 5300 +1 212 839 5599 FAX

AMERICA · ASIA PACIFIC · EUROPE

GLEVIN@SIDLEY.COM +1 212 839 5776

September 25, 2019

U.S. Securities and Exchange Commission Division of Corporation Finance Office of Healthcare & Insurance 100 F Street, N.E. Washington, D.C. 20549-3720

Attention: Sonia Bednarowski

Dietrich King Keira Nakada Kevin Vaughn

Re: Aprea Therapeutics, Inc. Amendment No. 1 to Registration Statement on Form S-1 Filed September 23, 2019 File No. 333-233662

Ladies and Gentlemen:

On behalf of our client, Aprea Therapeutics, Inc. (the "Company"), we submit this letter (the "Letter") in response to comments received from the staff (the "Staff") of the U.S. Securities and Exchange Commission (the "Commission") by letter dated September 24, 2019 (the "Comment Letter"), relating to the Company's Amendment No. 1 to Registration Statement on Form S-1 (File No. 333-233662) (the "Registration Statement"), filed with the Commission on September 23, 2019. We are concurrently submitting via EDGAR this letter and a second amendment to the Registration Statement.

In this Letter, we have recited the prior comment from the Staff in italicized, bold type and have followed the comment with the Company's response in ordinary type.

Exhibits and financial statement schedules
Exhibits
Exhibit 10.3, page II-4

1. We note your disclosure in Exhibit 10.3 that "[c]ertain information in this document has been omitted and filed separately with the Securities and Exchange Commission. Confidential treatment has been requested with respect to the omitted portions." If you intend to redact information pursuant to Item 601(b) of Regulation S-K, please revise the language in Exhibit 10.3 to state that certain identified information has been

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excluded from the exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed.

The Company respectfully advises the Staff that it has revised the language in Exhibit 10.3 to state that certain identified information has been excluded from the exhibit because it is both (i) not material and (ii) would be competitively harmful if publicly disclosed. Furthermore, the Company respectfully advises the Staff that it has removed the inadvertently-inserted brackets from certain "***" on page 7 of Exhibit 10.3 because such "***" were included in the body of the original agreement and are not representative of redactions being made by the Company.

* * * * *

We thank you in advance for your consideration of the foregoing. If you have any questions, please direct them to me at (212) 839-5776 or glevin@sidley.com or, alternatively, Istvan Hajdu at (212) 839-5651 or ihajdu@sidley.com.

Very truly yours,

/s/ Geoffrey Levin

Geoffrey W. Levin

cc: Christian S. Schade, Aprea Therapeutics, Inc.
Samir A. Gandhi, Sidley Austin LLP
Istvan A. Hajdu, Sidley Austin LLP
Richard D. Truesdell, Jr., Davis Polk & Wardwell LLP
Derek Dostal, Davis Polk & Wardwell LLP