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October 2, 2024

VIA EDGAR AND SECURE FILE TRANSFER

U.S. Securities and Exchange Commission
Division of Corporation Finance, Office of Life Sciences
100 F Street, N.E. Washington, D.C. 20549
Attention: Lauren Sprague Hammill
Re: CAMP4 Therapeutics Corporation
Amendment No. 1 to Registration Statement on Form S-1
Filed September 26, 2024
File No. 333-282241

Ladies and Gentlemen:

On behalf of CAMP4 Therapeutics Corporation (the "Company"), we hereby submit to the U.S. Securities and Exchange Commission (the "Commission"), via EDGAR, the following response to the comment letter from the staff of the Division of Corporation Finance (the "Staff") of the Commission, dated October 2, 2024, regarding Amendment No. 1 ("Amendment No. 1") to the above-referenced registration statement (the "Registration Statement").

To assist your review, we have presented the text of the Staff's comment in italics below. The response and information described below are based upon information provided to us by the Company and all terms used but not defined herein have the meanings assigned to such terms in Amendment No. 1.

Amendment No. 1 to Registration Statement on Form S-1
Prospectus Summary, CMP-CPS-001: Potential treatment for urea cycle disorders, page 5

1. *We note your disclosure on pages 5 and 130 that as of September 2024, the Safety Review Committee of your Phase 1 clinical trial of CMP-CPS-001 has reviewed all reported interim safety data, including treatment emergent adverse events from SAD cohorts 1 through 3, and that to date, "no safety trends of concern have been observed, and CMP-CPS-001 has been well tolerated." Please tell us whether any treatment related serious adverse events ("SAEs") occurred in your clinical trial, and if so, describe each SAE and quantify the number of occurrences. Alternatively, if true, affirmatively state that no SAEs occurred.*

Response to Comment 1:

The Company acknowledges the Staff's comment and respectfully confirms to the Staff that no treatment-related serious adverse events have been observed to date in the Company's ongoing Phase 1 clinical trial of CMP-CPS-001. The Company undertakes to include an affirmative statement to this effect in a subsequent amendment to the Registration Statement.

Please do not hesitate to call me at (617) 235-4961 or Lisa Folkerth at (617) 951-7791 with any questions or further comments you may have regarding this filing or if you wish to discuss the above response.

Sincerely,

/s/ Thomas J. Danielski

Thomas J. Danielski

cc. Josh Mandel-Brehm (CAMP4 Therapeutics Corporation)
cc. Kelly Gold (CAMP4 Therapeutics Corporation)
cc. Lisa Folkerth (Ropes & Gray LLP)
cc. Seo Salimi (Paul Hastings LLP)
cc. Will Magioncalda (Paul Hastings LLP)
