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April 13, 2023

U.S. Securities and Exchange Commission
Division of Corporation Finance
Office of Life Sciences
100 F Street, N.E.
Washington, D.C. 20549

Attention: Cindy Polynice
Suzanne Hayes
Ibolya Ignat
Vanessa Robertson

Re: ACELYRIN, INC.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted on March 24, 2023
CIK No. 0001962918

Ladies and Gentlemen:

On behalf of ACELYRIN, INC. (the "***Company***"), the following information is in response to comments received from the staff (the "***Staff***") of the Securities and Exchange Commission (the "***Commission***") by letter dated April 6, 2023 (the "***Comment Letter***") with respect to the Company's Amendment No. 1 to Draft Registration Statement on Form S-1 submitted to the Commission on March 24, 2023. Concurrently with the submission of this response letter, the Company is filing a revised Registration Statement on Form S-1 (the "***Registration Statement***"). In addition to addressing the comments raised by the Staff in its Comment Letter, the Company has included other revisions and updates to its disclosure in the Registration Statement.

For the convenience of the Staff, the numbering of the paragraphs below corresponds to the numbering of the comment in the Comment Letter, the text of which we have incorporated into this response letter for convenience in italicized type and which is followed by the Company's response. In the responses below, page number references are to the Registration Statement.

Amendment No.1 to Draft Registration Statement submitted March 24, 2023 Prospectus Summary

Summary
Overview of Izokibep, page 3

1. *We note your response to our prior comment one and reissue our comment. Throughout your filing you continue to make statements and predictions regarding the efficacy of your product candidates. As stated, efficacy conclusions are within the sole authority of the FDA and are assessed throughout the entire development process. Please remove all statements related to the safety and efficacy of your product candidates here and throughout your registration statement. For example:*

   - *"izokibep has demonstrated clinically meaningful responses"*
   - *"we believe the enthesitis resolution response of izokebep demonstrated in PsA could also be indicative of similar clinically meaningful responses . . ."*

- *"In the trial, both the 40mg and 80mg doses of izokibep demonstrated significant improvements compared to placebo."*
- *"The PsAID results for the overall population in this trial revealed statistically significant and dose-dependent improvements in all quality-of-life sub-domains of the PsAID instrument . . ."*

Please note that you should present the objective data from your trials without drawing conclusions as to whether they demonstrated efficacy. Additionally, note this is not an inclusive list of the efficacy claims you have included in your filing. Please review your filing thoroughly and remove all claims related to the efficacy of your product candidates.

Response: In response to the Staff's comment, the Company has revised the disclosures throughout the Registration Statement.

2. *We note your response to comment three and note you have revised your disclosure to indicate that orphan drug status does not guarantee that a regulatory authority will accept fewer trials or accelerate regulatory review. However, it is not until page 167 that you clarify that orphan drug status does not provide any advantage with respect to shortening the duration of the regulatory review and approval process. The revised disclosure on pages 3, 31, 124 and 127 continues to imply that orphan drug status may result in a shorter process. Please revise to clarify that it conveys no advantage in or shorten the duration of the regulatory review and approval process.*

   Response: In response to the Staff's comment, the Company has revised the disclosures on pages 3, 31, 126 and 130 of the Registration Statement.

3. *We note your response to comments 4 and 20. However, your revised disclosure indicates that you are relying on a demonstrated response from an ongoing trial to determine that the candidate may also demonstrate clinically meaningful responses for patients with AxSpA. Please remove the references to "the enthesitis resolution response izokibep demonstrated in PsA" and clarify that the FDA has not consented to your plans to conduct only one Phase 3 clinical trial for Izokibep for AxSPA. You may indicate that you are relying on data related to enthesitis from your PsA trials in seeking FDA approval to proceed directly to a Phase 2b/3 trial without indicating your conclusions with respect to the efficacy of that trial. Additionally, revise your pipeline table to clarify that you have not completed a Phase 2 trial. Until the FDA clarifies that a Phase 2 trial is not required, it is not appropriate to indicate that you have completed Phase 2 in your pipeline table on pages 2 and 125.*

   Response: In response to the Staff's comment, the Company has revised the disclosures on pages 2, 3, 126, 127, 130 and 146 of the Registration Statement.

Unaudited Pro Forma Condensed Combined Financial Information, Pro Forma Adjustments, page 100

4. *For the amount allocated to in-process research and development, please disclose a breakout of the amount due to the lonigutamab and XLRN-517 product candidates, separately.*

   Response: In response to the Staff's comment, the Company has revised the disclosures on page 103 of the Registration Statement.

Affibody Agreement, page 106

5. *We note your response to comment ten. Please further expand your disclosure to clarify what "certain marketing applications" qualify for priority review vouchers. For example, clarify whether all candidates with orphan drug status qualify for priority review vouchers. If not, describe the factors the FDA considers in determining whether to award a priority review voucher.*

   Response: In response to the Staff's comment, the Company has revised the disclosures on pages 108, 109, 159 and 160 of the Registration Statement.

Business, page 123

6. *Throughout your business section you compare your product candidates to efficacy information related to potential competitors. For example, on page 139, you state that you have used published data for all approved therapies for treatment of PsA. While you may indicate that ACR50 response rates at 16 weeks ranging from 35-45% was your trial endpoint if that was the case, you may not present the comparison of your candidate to other products or third party product candidates unless you have conducted head to head trials. Please revise your registration statement accordingly.*

   Response: In response to the Staff's comment, the Company has revised the disclosure in the Registration Statement accordingly.

Our ongoing Phase 2b/3 Trial of Izokibep in HS, page 136

7. *Please explain why you have provided the placebo response rates that have been reported by other agents in their historical clinical trials and clarify whether and how the FDA has agreed to allow you to use these results in your trial.*

   Response: The Company respectfully advises the Staff that it is appropriate to show placebo rates in discussing trial results to serve as a basis for determining the drug-related impacts of a treatment. We note that trials of other agents, including the currently approved therapy for hidradenitis supporativa, have historically reported low-to-no placebo response rates when achieving high levels of clinical response (75-90% response levels). These low placebo response rates at high clinical response levels seen with historical trials informed the Company's decision to initially conduct an open-label trial without a placebo arm, as this open label trial was designed to inform internal Company decision making about go-no go of further advancing development of izokibep in hidradenitis suppurativa. The Company will not use the reported placebo rates of other therapies in its discussions with the FDA.

   Since Part A of the Company's Phase 2b/3 trial of izokibep in hidradenitis suppurativa is open label, there is no placebo arm and therefore there is no placebo data to report. However, when the Company's trials include a placebo arm, such as Part B of this Phase 2b/3 trial, it will report its placebo response rates.

   In addition, in response to the Staff's comment, the Company has revised the disclosures on page 137 of the Registration Statement to clarify that Part A portion of the Phase 2b/3 trial was open-label.

8. *Please delete the statement that "achievement of HiSCR100 response at Week 12 does not appear, to our knowledge, to have been previously for any other product."*

   Response: In response to the Staff's comment, the Company has revised the disclosures on pages 5 and 138 of the Registration Statement.

Ongoing Phase 2b/3 Trial in Uveitis, page 147

9. *Please clarify that the ongoing Phase 2b/3 trial is your first clinical trial for uveitis. Similarly, clarify this information by footnote or otherwise in your pipeline table on pages 2 and 125.*

Response: In response to the Staff's comment, the Company has revised the disclosures on pages 2, 127 and 146 of the Registration Statement.

* * *

Please contact me at (650) 843 5654 with any questions or further comments regarding our responses to the Staff's comments.

Sincerely,

/s/ Chadwick Mills

Chadwick Mills

cc: Shao-Lee Lin, *ACELYRIN, INC.*
Mina Kim, *ACELYRIN, INC.*
Charlie S. Kim, *Cooley LLP*
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