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U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, DC 20549

Attn: Li Xiao
Angela Connell
Alan Campbell
Suzanne Hayes

Re: Taysha Gene Therapies, Inc.
Draft Registration Statement on Form S-1
Submitted August 3, 2020
CIK No. 0001806310

Ladies and Gentlemen:

On behalf of Taysha Gene Therapies, Inc. (the "***Company***"), we are providing this letter in response to the comments of the staff (the "***Staff***") of the U.S. Securities and Exchange Commission (the "***Commission***") Division of Corporation Finance contained in its letter, dated September 1, 2020 (the "***Comment Letter***"), relating to the Company's Draft Registration Statement on Form S-1, confidentially submitted on August 3, 2020 (the "***Draft Registration Statement***").

The Company is concurrently publicly filing Amendment No. 1 to its Registration Statement on Form S-1 ("***Amendment No. 1***"), which reflects changes made in response to certain of the comments contained in the Comment Letter.

The numbering of the paragraphs below corresponds to the numbering of the comments contained in the Comment Letter, which for your convenience we have incorporated into this response letter in italics. Page references in the text of this response letter correspond to the page numbers of Amendment No. 1. Capitalized terms used in this letter but not otherwise defined in this letter shall have the meanings set forth in Amendment No. 1.

Draft Registration Statement on Form S-1 submitted August 3, 2020

Prospectus Summary, page 1

1. *Please revise your summary to include a balanced discussion of your company and product candidates. For example:*

   - *clarify that no therapies utilizing the intrathecal method of administration and only two candidates utilizing gene transduction have ever been approved by the FDA;*
   - *remove indications that you will develop these candidates quickly;*
   - *clarify that Rett syndrome is extremely rare;*
   - *disclose when you were founded and that you have no experience developing or commercializing pharmaceutical or biologic products; and*
   - *disclose UT Southwestern has collaborative arrangements with third parties, including some competitors, which may present competing interests with respect to their priorities and resources.*

In response to the Staff's comment, the Company has revised the disclosure on pages 3, 4, 7, 8, 110 and 112 of Amendment No. 1. With respect to the third bullet of the comment, the Company has clarified on page 3 of Amendment No. 1 that the incidence rate of Rett syndrome is one in every 10,000 live female births.

2. *Please explain the term "patient-centric gene therapy company" and "patient-centric business."*

The Company respectfully advises the Staff that it uses the term "patient-centric" in reference to the Company's mission to both develop transformative gene therapy treatments to improve patients' lives and to engage patients to develop a better understanding of their disease or disorder, as well as its progression, symptoms and impact on quality of life. The Company notes that its product candidates target monogenic diseases of the CNS that impact over 500,000 patients in the United States and European Union, many of whom have limited treatment options beyond symptom management. As described on page 111 of Amendment No. 1, the Company's strategic partner, UT Southwestern, integrates research and clinical care with the goal of fostering the development of new disease-modifying therapies for the treatment of rare, often fatal disorders of the CNS. The Company intends to leverage its strategic partnership with UT Southwestern, and the knowledge gained through UT Southwestern's clinical neurology practice, to better design preclinical studies and clinical trials and understand the prevalence and molecular epidemiology, among other things, of the diseases and disorders the Company intends to treat through patients' experiences. The Company further has fostered relationships with patient advocacy organizations and research foundations for the diseases it is targeting in order to ensure that the Company clearly understands these key stakeholders' issues, insights and recommendations. The Company believes that this feedback from and collaboration with these groups will inform its key strategies in developing gene therapy treatments to transform the lives of the patients who suffer from these devastating diseases and disorders and their families.

Our Pipeline, page 2

3. *Please revise your product pipeline table as follows:*

- *For purposes of consistency with the discussion of the regulatory drug approval process, replace the term "Pivotal" with Phase 3. If "Pivotal" is intended to mean something other than Phase 3, please provide further explanation.*

The Company respectfully advises the Staff that it believes it is more appropriate to keep the column labeled "Pivotal" rather than change the column label to "Phase 3." Specifically, the Company believes that "Pivotal" applies to all of the product candidates listed in the table, whereas the label "Phase 3" may not be appropriate for certain of the product candidates listed. In support of the Company's position, the January 2020 FDA CBER Guidance Document entitled *Human Gene Therapy for Rare Diseases* states that sponsors of gene therapy clinical trials "should consider designing their first-in-human study to be an adequate and well-controlled investigation that has the potential, depending on the study results, to provide evidence of effectiveness to support a marketing application." In accordance with this guidance, a *pivotal* clinical trial intended to support a BLA may not necessarily be denoted as a Phase 3 clinical trial; however, a Phase 3 clinical trial is likely to be considered a pivotal clinical trial intended to support a BLA. The Company further notes that some currently approved gene therapy products and rare disease products have received FDA approval following a Phase 1/2 clinical trial, without conducting a Phase 3 trial, or have received approval following a pivotal clinical trial that was not specifically designated as Phase 3.

- *We note you have created a distinction between "preclinical" and "IND-enabling." As "IND-enabling" studies are preclinical, please revise your table to show all your product candidates in the preclinical phase.*

In response to the Staff's comment, the Company has revised the pipeline chart on pages 2 and 109 of Amendment No. 1.

- *Additionally, your table indicates that all product candidates have completed preclinical trials. Your disclosure appears to indicate that you are close to being ready to submit INDs for TSHA-101, TSHA-102, TSHA-103 and TSHA-104. If all preclinical testing for these candidates has been completed, depicting the program with a bar through the preclinical column in the table is appropriate. It is not appropriate to depict the bar through the preclinical column for any program that has not completed all preclinical work, including "IND enabling" studies.*

In response to the Staff's comment, the Company has revised the pipeline chart on pages 2 and 109 of Amendment No. 1.

- *Please clarify what the "Rights" column is intended to convey. For example if it is intended to indicate that you have licensed the rights to commercialize the product candidates, please make that clear.*

In response to the Staff's comment, the Company has revised the pipeline chart on pages 2 and 109 of Amendment No. 1.

- *Include separate columns for Phase 1 and Phase 2 trials or tell us the basis for your belief that you will be able to conduct Phase 1/2 trials for all your product candidates.*

The Company respectfully advises the Staff that it believes that the product pipeline table on pages 2 and 109 of Amendment No. 1 appropriately reflects its planned clinical development programs. The typical drug development process includes Phase 1 first-in-man clinical trials, which are conducted in healthy adult volunteers, followed by Phase 2 clinical trials in patients with the disease to demonstrate safety and preliminary efficacy in the targeted patient population. The Company advises the Staff that it is generally accepted that it is inappropriate for gene therapy product candidates to be administered to healthy volunteers due to an unacceptable benefit-risk profile, given the potential for long-lasting or permanent effects. Accordingly, the Company cannot conduct traditionally distinct Phase 1 and Phase 2 trials and must instead, in accordance with regulatory authority guidelines and guidance, evaluate its product candidates in a limited patient population in combined Phase 1/2 studies, which the Company notes is consistent with the clinical development approach taken by some gene therapy products that have received FDA approval following a Phase 1/2 clinical trial. As described in Amendment No. 1, each of the Company's planned Phase 1/2 trials will involve evaluation of safety of the product candidate through the initial introduction of a new product candidate in humans, as well as preliminary evaluations of efficacy of the product candidate because they are being administered to a patient with the disease being treated.

- *We note that TSHA-107, TSHA-108 and TSHA 109 appear in your pipeline table with "undisclosed targets", and are not discussed elsewhere in the prospectus. To the extent these are material programs, disclose the targets and provide descriptions of these programs. If you have not yet identified target indications, please remove them from the table or explain the basis for your belief that they are material and should be included in your pipeline table.*

In response to the Staff's comment, the Company has added additional disclosure regarding TSHA-107, TSHA-108 and TSHA-109 on page 134 of Amendment No. 1.

Our Strategic Partnership with the University of Texas Southwestern Medical Center, page 3

4. *Please confirm that the credentials identified are held by individuals involved in the development of your product candidates. If they are not, please revise your disclosure to only present credentials held by faculty involved in the development of your product candidates.*

In response to the Staff's comment, the Company has deleted the referenced disclosure on pages 4 and 110 of Amendment No. 1.

Our History and Team, page 5

5. *Please limit the disclosure identifying your investors to investors identified in your Principal Stockholder table.*

The Company respectfully advises the Staff that it believes it is important for a prospective investor's understanding of the Company to disclose the identities of the Company's existing investors, even those who beneficially own less than 5% of the Company's outstanding capital stock prior to the offering. The Company respectfully submits that prospective investors often consider a company's existing investor base as part of their evaluation of the investment opportunity in a company, and the Company would prefer to provide this kind of transparency and additional detail to prospective investors as part of their investment decision-making process. The Company further respectfully notes that many similar biopharmaceutical companies have presented a list of existing investors, regardless of whether the investors are identified in the principal stockholder table, including in numerous filings with the Commission in connection with initial public offerings, and that these investors are listed as signatories to the Amended and Restated Investors' Rights Agreement publicly filed as Exhibit 4.1 to its Registration Statement on Form S-1.

Implications of Being an Emerging Growth Company, page 8

6. *Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.*

The Company respectfully acknowledges the Staff's comment and will supplementally provide to the Staff, under separate cover, copies of all written communications, as defined in Rule 405 under the Securities Act, that the Company, or anyone the Company authorized to on its behalf, presented to potential investors in reliance of Section 5(d) of the Securities Act.

License Agreement with Queen's University at Kingston, page 90

7. *Please expand your description of the license agreement with Queen's University at Kingston to describe the technology licensed; identify your product candidates that are dependent on the license; and disclose when the latest to expire patents is scheduled to expire.*

In response to the Staff's comment, the Company has revised the disclosure on page 142 of Amendment No. 1.

* * * *

Please direct any questions or further comments concerning the Registration Statement or this response letter to either the undersigned at (212) 479-6474 or Madison Jones of Cooley LLP at (202) 728-7087.

Sincerely,

/s/ Divakar Gupta

Divakar Gupta

cc: RA Session II, Taysha Gene Therapies, Inc.
Kamran Alam, Taysha Gene Therapies, Inc.
Seo Salimi, Goodwin Procter LLP