UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

August 3, 2017

J. Rodney Varner
Chief Executive Officer
Genprex, Inc.
100 Congress Avenue, Suite 2000
Austin, TX 78701

Re: Genprex, Inc.
Registration Statement on Form S-1
Filed July 21, 2017
File No. 333-219386

Dear Mr. Varner:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our June 30, 2017 letter.

Prospectus Summary
Overview, page 1

1. We note your response to comment 2, however we are unable to locate any disclosure relating to MD Anderson's preclinical studies combining Oncoprex with MK2206. Please also revise your disclosure to state specifically that you have not conducted any preclinical or clinical studies combining Oncoprex with pembrolizumab and atezolizumab. In addition, in your discussion in the penultimate paragraph on page 2, please clarify that your references to clinical data refer to data from nine patients.

2. We refer to your revised disclosure in the second paragraph on page 4. Please balance your discussion regarding your observations from the Phase I trial to explain that the study was not designed to show changes in outcomes.

Our Pipeline, page 4

3. We acknowledge your revised disclosure in response to comment 7. Please also remove the 3p21.3 candidate program that is shown in the preclinical phase since it does not appear that this program has advanced much beyond the identification of certain genes that may have cancer fighting functions by researchers at MD Anderson.

Business
Preclinical Studies of TUSC2 in the Immune Response to Cancer, page 80

4. We refer to your revised disclosure regarding the figures on page 83 in response to comment 22. Please further explain the meaning of Figure A. In addition, please add back to the diagrams the labels of each of the figures (e.g., "Figure A").

Intellectual Property, page 84

5. We acknowledge your revised disclosure in response to comment 23. If known, please also include the expected expiration date(s) if the patents are granted for the category of patents reflected in row 5 of your table.

6. Please revise your disclosure to state which patent families relate to Oncoprex. Please also explain how the patents relating to non-viral gene therapy for treatment of hyperproliferative diseases relate to your platform, and whether you expect the expiration of these patents to have a material effect on your business.

Licenses and Research Collaborations, page 85

7. We acknowledge your revised disclosures in response to comments 25 and 26. Please clarify whether the term for the MD Anderson license agreement is until the expiration of all patents covered by the agreement. In addition, for the MD Anderson and P53 license agreements, please explain when the last of the patents licensed under each agreement expires.

Statements of Operations, page F-4

8. Please refer to prior comment 31 and explain your basis for including common stock equivalents in your calculation of diluted earnings per share and how this presentation conforms to the requirements of ASC 260-10-45-17.

Notes to Financial Statements
Note-4 Investment Unit, page F-10

9. Please refer to prior comment 34. We acknowledge the information provided in your response. However, it is unclear whether the notification from the "Trust Company" on

September 29, 2015 constitutes a permanent legal release from all of your performance obligations under the agreement. Please explain how your accounting treatment for derecognition of the $4.5 million promissory note complied with guidance in ASC 405-20-40. In this regard, the notification from the "Trust Company" appears to indicate that not all of the compliance and reporting requirements were suspended and that these suspensions were temporary until your agreement is amended. Please address these matters in your response and as originally requested, explain the factors you considered in concluding that enforcement of these provisions would not be reinstated. In addition, provide a summary of your accounting treatment for this debt extinguishment and the technical guidance upon which you relied.

Note 7-Commitments and Contingencies, page F-15

10. Please refer to prior comment 37 and provide a summary of your accounting treatment for modification of the agreement with the National Institutes of Health, particularly the royalty extinguishment of $120,000 and new contingent milestone payment obligation of $240,000. Refer us to the technical guidance upon which you relied.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Frank Wyman at 202-551-3660 or Lisa Vanjoske at 202-551-3614 if you have questions regarding comments on the financial statements and related matters. Please contact Dorrie Yale at 202-551-8776 or Erin Jaskot, Special Counsel, at 202-551-3442 with any other questions.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Christopher Ozburn — Streusand, Landon & Ozburn, LLP