



DIVISION OF
CORPORATION FINANCE

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

June 4, 2015

Nick Glover
President and Chief Executive Officer
ProNAi Therapeutics, Inc.
2150 – 885 West Georgia Street
Vancouver, British Columbia
Canada V6C 3E8

**Re: ProNAi Therapeutics, Inc.
Amendment No. 1 to
Draft Registration Statement on Form S-1
Submitted May 19, 2015
CIK No. 0001290149**

Dear Mr. Glover:

We have reviewed your amended draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Prospectus Summary, page 1

Overview, page 1

1. We note your response to our prior comment 3 and reissue in part. Please disclose in one of the opening paragraphs that you do not currently have any products in the market and that before you can legally distribute and market your products you must receive regulatory approvals, such as from the FDA or similar regulatory agencies, and you have not yet received any such regulatory approvals. Please also briefly discuss the potentially lengthy process you may need to undertake before you can get any products through clinical trials and to the market. In this regard, we note your disclosure in the third paragraph of the Status of Our Clinical Development Program section on page 85. Please revise this section to include comparable disclosure.

2. We note your response to our prior comment 4 and reissue in part. Please disclose in one of the opening paragraphs that you have not generated revenue and have incurred losses since inception.

Risk Factors, page 12

If we encounter difficulties enrolling patients in our clinical trials, page 17

3. We note your response to our prior comment 11, your revised disclosure on page 90 and reissue. We note that you currently have one ongoing trial, Wolverine, that your first patient was enrolled in December of 2014 and that the trial calls for 60 patients. Please advise regarding the current status of patient enrollment for the Wolverine trial and update your disclosure, as may be applicable.

Research and Development, page 65

4. You state in the second paragraph that the largest recurring component of your total operating expenses has historically been your investment in research and development activities, including the clinical development of your product candidate. On page 93, you disclose a significant portion of your resources has been dedicated to the research and development of your lead product candidate, PNT2258, and your DNAi technology platform. Please provide us with the following information:
 - For your key research and development projects, please tell us the following:
 - The costs incurred during each period presented and to date;
 - The nature of efforts and steps necessary to complete the project;
 - The risks and uncertainties associated with completing development;
 - The extent and nature of additional resources that need to be obtained if current liquidity is not expected to be sufficient to complete the project; and
 - Whether a future milestone such as completion of a development phase, date of filing an NDA with a regulatory agency, or approval from a regulatory agency can be reliably determined.
 - If based on a known event, trend, demand, commitment or uncertainty, future R&D expense or the mix of R&D expense is reasonably likely to differ from current trends, please tell us the reasons for and the amount of the expected change.

Principal Stockholders, page 122

5. We note your response to our prior comment 21 and reissue. Please revise to provide the required information as of the most recent practicable date. Refer to Item 403 of Regulation S-K.

Nick Glover
ProNAi Therapeutics, Inc.
June 4, 2015
Page 3

You may contact Effie Simpson at (202) 551-3346 or Jean Yu, Assistant Chief Accountant, at (202) 551-3305 if you have questions regarding comments on the financial statements and related matters. Please contact Donald E. Field at (202) 551-3680 or me at (202) 551-3210 with any other questions.

Sincerely,

/s/ Susan Block

Susan Block
Attorney-Advisor

cc: Stephen M. Graham, Esq.
Fenwick & West LLP