

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

December 8, 2010

Russell H. Ellison, M.D. Chief Executive Officer Ventrus Biosciences, Inc. 787 7th Avenue, 48th Floor New York, New York 10019

Re: Ventrus Biosciences, Inc.

Registration Statement on Form S-1 Amendment no. 4 filed December 6, 2010

File No. 333-168224

Dear Dr. Ellison:

We have reviewed your amended registration statement and have the following comments.

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.

Form S-1 Amendment No.4

Notes to Financial Statements
Note 10 – Pro Forma Loss Per Share, page F-21

1. Please refer to your response to comment three. We note that you have disclosed that the amount of pro forma weighted average shares outstanding is 1,829,323. Using this amount it would result in a pro forma net loss per share of approximately \$(2.48). Please revise your disclosure or explain the difference between this amount and the amount disclosed on the statement of operations of \$(4.88). Furthermore, please tell us how you computed the principal amount of convertible notes of \$5,615,201.

Notes to Unaudited Condensed Financial Statements Note 10 – Pro Forma Loss Per Share, page F-39

2. We note that you have disclosed that the amount of pro forma weighted average shares outstanding was 2,388,579. Using this amount it would result in a pro forma net loss per

Dr. Russell H. Ellison Ventrus Biosciences, Inc. December 8, 2010 Page 2

share of approximately \$(2.48). Please revise your disclosure or explain the difference between this amount and the amount disclosed on the statement of operations of \$(2.53). In addition, please tell us how you computed the principal amount of convertible notes of \$7,520,591.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Vanessa Robertson, Staff Accountant, at (202) 551-3649 or Don Abbott, Review Accountant, at (202) 551-3608 if you have questions regarding comments on the financial statements and related matters. Please contact John Krug, Senior Counsel, at (202) 551-3862, or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler Assistant Director

cc: Alexander M. Donaldson, Esq. W. David Mannheim, Esq. Wyrick Robbins Yates & Ponton LLP 4101 Lake Boone Trail, Suite 300 Raleigh, North Carolina 27607