



DIVISION OF
CORPORATION FINANCE

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

September 30, 2010

Mr. John A. Marhofer, Jr.
Chief Financial Officer
Cleveland BioLabs, Inc.
73 High Street,
Buffalo, New York 14203

Re: Cleveland BioLabs, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed on March 22, 2010
File No. 001-32954

Dear Mr. Marhofer:

We have reviewed your August 26, 2010 response to our August 12, 2010 comments 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 within ten business days by providing the requested information or by advising us when you will provide the requested response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your response to our comments.

After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

Products in Development, page 4

1. We have reviewed your response to comment 1. We note that you have spent approximately \$35,277,485 on research and development activities related to Protectan CBLB502. Please tell us the percentage of these costs that have been funded by the Chemical Biologic Medical System Joint Project Management Office pursuant to the agreement.
2. Additionally, we note your reference to the risk factor on page 20. This risk factor discussion includes the U.S. government's rights to terminate the agreement, audit your costs and fees, control and/or prohibit exportation of your products and revise your contracts. Additionally, we note that you are required to provide DoD with status reports, data packages, IND submissions and communications with the FDA. Does the agreement allow the U.S. government to use the results of your research? What are the options that DoD may exercise upon your satisfaction of certain milestones. Please provide proposed disclosure of any additional DoD rights to be included in future filings.

3. We note your response to comment 1 states that the Statement of Work relating to the DoD agreement includes completion of efficacy studies and drug formulation. Please confirm that that you will include this information in future filings.
4. We have reviewed your response to comment 2 and note that you have agreed to provide descriptions of the U.S. government rights relating to the intellectual property in your next Form 10-Q. Please also confirm that you will include a description of your required activities pursuant to the base contract and options as described in your response letter.
5. According to your response to comment 2, it is unclear how much you have received pursuant to your agreement with HHS. It appears that you have received at least \$9.7 million, including amounts associated with the base contract and first option. Therefore, it appears that at least 27% of the research and development expenses related to Protectan CBLB502 were funded through your agreement with HHS. As CBLB502 is your most advanced product candidate and a significant percentage of the research and development has been funded by HHS, it appears that you are substantially dependent on the HHS agreement. Please file the agreement as an exhibit.

Patents, page 14

6. Please confirm that your future filings will disclose when your patents are scheduled to expire.

Financial Statements

Note 4 - Equity Transactions, page 54

7. Please revise your disclosures to include the information provided to us supplementally in your response to comment eight. Please clarify in your revised disclosures whether the increased volatility in the marketplace during 2008 and early 2009 warranted an increase in historical discounts for lack of marketability of 11 to 27 basis points or 11% to 27%.

You may contact Ibolya Ignat, Staff Accountant at (202) 551-3656, or Gus Rodriguez, Accounting Branch Chief, at (202) 551-3752 if you have any questions regarding the processing of your response as well as any questions regarding the comments on the financial statements and related matters. You may contact Johnny Gharib, Staff Attorney, at (202) 551-3170 or Suzanne Hayes, Branch Chief at (202) 551-3675 regarding other comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant