

Mail Stop 6010
Via Facsimile and U.S. Mail

March 30, 2007

Ms. Aiping H. Young
President and Chief Executive Officer
Lorus Therapeutics, Inc.
2 Meridian Road
Toronto, Ontario, Canada M9W 4Z7

**Re: Lorus Therapeutics, Inc.
Form 20-F for fiscal year ended May 31, 2006
File No. 001-32001**

Dear Ms. Young:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 20-F for fiscal year ended May 31, 2006

Item 5. Operating and Financial Review and Prospects

Management's Discussion and Analysis of Financial Condition and Results of Operations

A. Operating Results

Critical Accounting Policies, page 32

1. You have identified drug development costs, stock based compensation, valuation allowance for future tax assets and valuation of long lived assets as critical accounting policies but appear to have omitted any further discussion of the associated uncertainties in applying these critical accounting policies and the likelihood that materially different amounts would be reported under different conditions or using different assumptions. Please disclose the expected uncertainties in applying your critical accounting policies, the effect that changes in such estimates have had on your operating results and financial position for each period presented and the effect that reasonably likely changes in the key assumptions underlying these estimates as of the latest balance sheet may have on your financial position. Refer to Section V of Financial Reporting Release No. 72 issued on December 29, 2003. Please include a discussion of any differences between Canadian and U.S. GAAP regarding your critical accounting policies or estimates that are necessary for an understanding of the financial statements as a whole. Please refer to SAB Topic 1:D.1.

Operating Results

Research and Development, page 34

2. Please refer to the Division of Corporation Finance “Current Issues and Rulemaking Projects Quarterly Update” under section VIII – Industry Specific Issues – Accounting and Disclosure by Companies Engaged in Research and Development Activities. You can find it at the following website address: <http://www.sec.gov/divisions/corpfin/cfcrq032001.htm#secviii>.

Provide the following information for each of your major research and development projects:

- a. The costs incurred during each period presented and to date on the project;
- b. The nature, timing and estimated costs of the efforts necessary to complete the project;
- c. The anticipated completion date for the project;
- d. The risks and uncertainties associated with completing development on schedule, and the consequences to operations, financial position and liquidity if the project is not completed timely; and,
- e. The period in which material net cash inflows from the project are expected to commence.

Regarding a., if you do not maintain any research and development costs by project disclose that fact and explain why management does not maintain and evaluate research and development costs by project. Provide other quantitative or qualitative disclosure that indicates the amount of the company’s resources being used on the project.

Regarding b. and c., disclose the amount or range of estimated costs and timing to complete the phase in process and each future phase. To the extent that information is not estimable, disclose those facts and circumstances indicating the uncertainties that preclude you from making a reasonable estimate.

3. You refer to NuChem Analog milestone obligations to be paid to Ion Pharmaceuticals and Cyclacel and royalties to be paid to the University of Manitoba and the University of Toronto. Please disclose the following information related to these arrangements:
 - a. Describe how your patents are used in the clinical development and commercialization activities for your lead product candidates. In particular, describe how NuChem Analogs impact the clinical development of Virulizin and GTI-2040.
 - b. Describe and quantify the “certain milestones” expected to be achieved in 2007 and 2008.
 - c. Describe and quantify the terms governing royalty payments to these parties.
4. Please disclose the process for developing intellectual property under your collaborations with NCI, University of Toronto and Sumitomo and Koken, the specific rights to the resulting intellectual property to be held by you and the terms expected to govern each related license. Quantify the amount and expected timing of all payment obligations. Quantify the amount and timing of royalties expected to be received under these agreements.

F. Tabular disclosure of contractual obligations, page 41

5. Your table of contractual obligations omits estimated funding obligations related to your license agreements and collaborations. Please revise the table to include these obligations or explain to us why it is unnecessary.

Item 11. Qualitative and Quantitative Disclosures about Market Risk

6. Your disclosures in Notes 13 and 15 to the consolidated financial statements do not appear to provide the disclosures about market risk required by Item 11 to Form 20-F. Please disclose the information required by Item 11 in this section of the filing.

Item 17. Financial Statements

Report of Independent Registered Public Accounting Firm, page F-2

7. KPMG LLP states in their report that "we did not audit the consolidated financial statements of loss and deficit and cash flows for the period from inception on September 6, 1986 to May 31, 2006 in accordance with the standards of the Public Company Accounting Oversight Board (United States)." Please note that an auditor's association with the cumulative data is required on an annual basis as long as the registrant is in the development stage. Please amend your filing to include a report from KPMG that states they have audited the consolidated financial statements of loss and deficit and cash flows for the period from inception on September 6, 1986 to May 31, 2006 in accordance with the standards of the Public Company Accounting Oversight Board.

Notes to Consolidated Financial Statements

17. Canada and United States Accounting Policy Differences, page F-21

8. Please expand your disclosure to clarify the accounting under US GAAP for the conversion options embedded in the convertible debentures. In particular, explain your basis for concluding that these conversion options were was not subject to bifurcation, including references to applicable technical guidance within SFAS 133 and EITF 00-19.

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As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please furnish your letter on EDGAR under the form type label CORRESP.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

In connection with responding to our comments, please provide, in your letter, a statement from the company acknowledging that:

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- the company is responsible for the adequacy and accuracy of the disclosure in the filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Frank Wyman, Staff Accountant, at 202-551-3660 or Don Abbott, Senior Staff Accountant, at 202-551-3608, if you have questions regarding the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant