

Via Facsimile and U.S. Mail
Mail Stop 6010

December 13, 2007

Mr. Douglas J. Swirsky
Chief Financial Officer, Treasurer and
Corporate Secretary
GenVec, Inc.
65 West Watkins Mill Road
Gaithersburg, MD 20878

Re: GenVec, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2006
Filed March 16, 2007
File Number: 000-24469

Dear Mr. Swirsky:

We have limited our review of your filing to those issues we have addressed in our comments. In our comments, we ask you to provide us with information to better understand your disclosure. Where a comment requests you to revise disclosure, the information you provide should show us what the revised disclosure will look like and identify the annual or quarterly filing, as applicable, in which you intend to first include it. If you do not believe that revised disclosure is necessary, explain the reason in your response. After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 34

Critical Accounting Policies and the Use of Estimates, page 35

Clinical Trial Expenses and Research and Development Activities, page 35

1. Please refer to the Division of Corporation Finance "Current Issues and Rulemaking Projects Quarterly Update" under section VIII – Industry Specific

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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>.

Please revise to disclose 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 period in which material net cash inflows from significant projects 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.

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Please provide us the information requested within 10 business days of the date of this letter or tell us when you will provide a response prior to the expiration of the 10-day period. Please furnish a letter with your responses that keys your responses to our comment. Detailed letters greatly facilitate our review. You should furnish the 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 comment, please provide, in your letter, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comment or changes to disclosure in response to staff comment do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comment 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 comment on your filing.

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You may contact Tabatha Akins, Staff Accountant, at (202) 551-3658, or Mary Mast, Senior Accountant, at (202) 551-3613, 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