

Mail Stop 6010

July 1, 2008

Mr. Bruce A. Beutel  
President and Chief Scientific Officer  
Znomics, Inc.  
2611 SW 3rd Avenue, Suite 200  
Portland, OR 97201

**Re: Znomics, Inc.**  
**Amendment No. 3 to Registration Statement on Form S-1/A**  
**Filed June 19, 2008**  
**File No. 333-148220**

Dear Mr. Beutel:

We have reviewed your filing and have the following comments. 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 may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Amendment No. 3 to Form S-1/A

Description of Business

Status of New Products and Services, page 43

1. We note your disclosure on page 44 that in May 2008, you entered into a research and license agreement with Dr. Nikolaus Trede and the University of Utah for pre-clinical compound discovery for T-Cell related diseases of leukemia, lymphoma, auto-immune diseases and inflammation. Please revise the description of your agreement with Dr. Nikolaus Trede and the University of Utah to disclose the material terms of your agreement, including:
  - Each parties' benefits and obligation under the agreement;
  - If the agreement provides for milestone payments, quantify the aggregate amount of potential milestone payments;
  - If the agreement provides for royalty payments, please disclose the potential range of royalty payments (for example, "low-teens" or "high-teens") and the length of time you would be required to continue receiving those royalty payments;
  - Any rights you have to any discoveries made under the agreement in addition to milestone payments and royalties, such as commercialization rights, etc.;
  - Duration and termination provisions; and
  - Any other material terms.
2. Please file the research and license agreement with Dr. Nikolaus Trede and the University of Utah as an exhibit, or provide us with an analysis supporting your determination that the agreement is not required to be filed pursuant to Item 601 (b)(10) of Regulation S-K.

Dependence on limited customers, page 46

3. Given the fact that you do not currently have a drug target development contract with a biotechnology or pharmaceutical company, please tell us the basis for your statement that you expect to complete these phases for one or more of the T-cell related diseases in four months to one year. Alternatively, delete the statement.

Financial Statements of Znomics

Pro Forma Financial Statements, page F-46

4. We acknowledge your response to prior comment 3. Please update the pro forma income statement for your merger in November 2007 through the interim period ended March 31, 2008.

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As appropriate, please amend your filing in response to these comments. 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 supplemental information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain that they have provided all information investors require for an informed 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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 this action 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 connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as a confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

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You may contact Gus Rodriguez at (202) 551-3752 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Rose Zukin at (202) 551-3239 or Suzanne Hayes at (202) 551-3675 with any other questions.

Sincerely,

Jeffrey P. Riedler  
Assistant Director

cc: Bryan R. Clark, Esq.  
Cane Clark LLP  
3273 East Warm Springs Rd.  
Las Vegas, NV 89120