

Via Facsimile and U.S. Mail  
Mail Stop 6010

March 3, 2008

Mr. Greg Collier  
Chief Executive Officer and Managing Director  
ChemGenex Pharmaceuticals Limited  
Pigdons Road  
Waurin Ponds  
P.O. Box 1069, Grovedale  
Victoria 3216 Australia

**Re: ChemGenex Pharmaceuticals Limited  
Form 20-F for the Year Ended June 30, 2007  
Filed November 27, 2007  
File No. 000-51373**

Dear Mr. Collier:

We have reviewed your filing and have the following 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 19. Exhibits, page 71

1. Throughout the Form 20-F, you refer to the following agreements with third parties that you have not included as exhibits:

- The twelve month, A\$2,400,000 extension to a research agreement first signed on 2 June, 2005 with Deakin University (Geelong, Australia) to conduct gene discovery, small molecule screening and validation research according to instruction from the company in the fields of obesity, diabetes and depression.
- The Pharmaceutical Partnership Program (P3) of the Australian Federal government, through which the company has the ability to earn grant revenue based on the growth of the company's research in Australia over the next three years.
- The General Research Agreement dated December 20, 2005 with Merck Santé (a subsidiary of Merck KGaA) pursuant to which Merck Santé agrees to fund a minimum of €10,000 per annum.

Please note that Item 19 requires you to include as exhibits "any contract upon which your business is substantially dependent." It appears that the agreements listed above may be material contracts required to be filed as exhibits under Item 19. Please file the agreements as exhibits to the Form 20-F or provide us with an analysis supporting your determination that you are not substantially dependent on any of these agreements.

\* \* \* \*

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provide the requested information. Detailed 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 filing;
- 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 comment on your filing.

You may contact Sonia Barros at (202) 551-3655 or me at (202) 551-3715 with questions on any of the comments.

Sincerely,

Jeffrey P. Riedler  
Assistant Director

cc: Ross Kaufman, Esq.  
Greenberg Traurig, LLP  
200 Park Avenue  
New York, New York 10166