

Mail Stop 6010

June 17, 2008

Robert P. Hebert
Chief Financial Officer
CPEX Pharmaceuticals, Inc.
2 Holland Way
Exeter, NH 03833

**Re: CPEX Pharmaceuticals, Inc.
Registration Statement on Form 10-12B, filed 12/21/2007, as amended
File No. 1-33895**

Dear Mr. Hebert:

We have completed our review of your registration statement on Form 10-12B and have no further comments at this time. Pursuant to your request, as of today's date, we have accelerated the effectiveness of the above registration statement.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Marie L. Gibson
Skadden, Arps, Slate, Meagher & Flom LLP
Four Times Square
New York, New York 10036