

Mail Stop 4720

September 22, 2009

Mr. Neil K. Warma
President and Chief Executive Officer
Opexa Therapeutics, Inc.
2635 N. Crescent Ridge Drive
The Woodlands, TX 77381

**Re: Opexa Therapeutics, Inc.
Post-Effective Amendment No. 1 on Form S-3
Filed September 17, 2009
File Number 333-147167**

Dear Mr. Warma:

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 comments are inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

Post-Effective Amendment No. 1 on Form S-3

1. We note that you do not appear eligible to conduct a primary offering under General Instruction I.B.1 to Form S-3. If you are eligible to conduct a primary offering on Form S-3 under General Instruction I.B.6, please provide the information required pursuant to Instruction 7 to that general instruction. Alternatively, please withdraw your registration statement and file it on a form which you are eligible to conduct a primary offering.
2. We note your disclosure on the cover page and in the "Offering" section of your filing that you are offering 3,500,000 million shares of common stock; 3,500,000 million Series E Warrants to purchase one share of common stock; and 3,500,000 shares of common stock issuable upon exercise of the Series E Warrants. However, the heading on your cover page does not indicate that you are offering 3,500,000 shares of common stock issuable upon exercise of the Series E Warrants. Please revise the heading of your cover page accordingly.

3. We note that you incorporate by reference certain Form 8-Ks filed with the Commission in August 2009 and September 2009. However, Item 12(a)(2) of Form S-3 requires that you incorporate by reference all Form 8-K reports filed with the Commission since the end of the fiscal year. Please revise the "Incorporation of Certain Information by Reference" section to incorporate by reference all Form 8-Ks filed since December 31, 2008.
4. We note that you filed a Form 10-K/A for the Fiscal Year Ended December 31, 2008 on May 18, 2009. Please revise the "Incorporation of Certain Information by Reference" section to incorporate the Form 10-K/A by reference.

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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

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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.

Please contact Rose Zukin at (202) 551-3239 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Michael C. Blaney
Vinson & Elkins L.L.P.
1001 Fannin, Suite 2300
Houston, TX 77002