

**ZIOPHARM ONCOLOGY, INC.**  
1180 Avenue of the Americas, 19<sup>th</sup> Floor  
New York, New York 10036

May 11, 2010

**TRANSMITTED VIA EDGAR**

U.S. Securities and Exchange Commission  
Judiciary Plaza  
450 5th Street, N.W.  
Washington, D.C. 20549

Attention: Mr. Jeffrey Riedler, Assistant Director

Re: **ZIOPHARM Oncology, Inc. (the "Company")**  
**Registration Statement of Form S-3**  
**Filed April 30, 2010, as amended May 10, 2010**  
**File No. 333-166444**

Dear Mr. Riedler:

The undersigned respectfully requests that the Registration Statement on Form S-3 of ZIOPHARM Oncology, Inc. (SEC File No. 333-166444) be declared effective at 10:00 a.m., Washington, D.C. time, on Thursday, May 13, 2010, or as soon thereafter as is practicable.

In connection with this request, the Company hereby acknowledges that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, such declaration 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 the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any other person under the federal securities laws of the United States.

Sincerely,

**ZIOPHARM ONCOLOGY, INC.**

By: /s/ Richard E. Bagley

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Richard E. Bagley,  
*President, Treasurer and Chief Operating Officer*

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