

October 1, 2010

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**SUBMITTED VIA EDGAR**

Jim B. Rosenberg  
Senior Assistant Chief Accountant  
Division of Corporation Finance  
United States Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

Re: ZIOPHARM Oncology, Inc. (the "**Company**")  
Form 10-K for the Fiscal Year Ended December 31, 2009  
Filed March 17, 2010  
Form 10-K/A for the Fiscal Year Ended December 31, 2009  
Filed April 30, 2010  
File Number 001-33038

Dear Mr. Rosenberg:

Reference is made to your comment letter addressed to the Company and dated September 20, 2010 (the "**Comment Letter**"), with respect to the above referenced documents filed by the Company with the Securities and Exchange Commission. This letter will confirm the Company's receipt of the Comment Letter and the Company's intention to respond to the comments set forth therein no later than October 18, 2010.

If you have any questions or comments regarding the foregoing, do not hesitate to contact the undersigned by telephone at (612) 672-8381, or by facsimile at (612) 642-8381; or to contact Richard E. Bagley, the Company's President, Chief Operating Officer and Chief Financial Officer by telephone at (617) 259-1978, or by facsimile at (617) 241-2855.

Regards,

*/s/ Alan M. Gilbert*  
Alan M. Gilbert, Esq.

cc: (via email): Dr. Jonathan Lewis  
Richard Bagley  
Tyler Cook  
Kevin Lafond

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