

Mail Stop 6010  
Via Facsimile and U.S. Mail

March 3, 2009

Mr. Henri A. Termeer  
Principal Executive Officer  
Genzyme Corporation  
500 Kendall Street  
Cambridge, Massachusetts 02142

**Re: Genzyme Corporation**  
**Form 10-K for Fiscal Year Ended December 31, 2007**  
**File No. 0-14680**

Dear Mr. Termeer:

We have completed our review of your Form 10-K and have no further comments at this time.

Sincerely,

Carlton E. Tartar  
Branch Chief