



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

May 4, 2011

Michael V. Greco
Associate General Counsel and Corporate Secretary
Alexion Pharmaceuticals, Inc.
352 Knotter Drive
Cheshire, Connecticut 06410

**Re: Alexion Pharmaceuticals, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed February 17, 2011
Definitive Proxy Statement
Filed April 18, 2011
File No. 000-27756**

Dear Mr. Greco:

We have completed our review of your filings and do not have any further comments at this time.

Sincerely,

Jeffrey P. Riedler
Assistant Director