



DIVISION OF  
CORPORATION FINANCE

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

April 4, 2012

Via E-Mail

Glenn P. Muir  
Director, Executive Vice President and Chief Financial Officer  
Hologic, Inc.  
35 Crosby Drive  
Bedford, MA 01730

**Re: Hologic, Inc.**  
**Form 10-K for the Fiscal Year Ended September 24, 2011**  
**Filed November 23, 2011**  
**File No. 0-18281**

Dear Mr. Muir:

We refer you to our comment letter dated February 24, 2012 regarding business contacts with Iran and Syria. We have completed our review of this subject matter. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Cecilia Blye

Cecilia Blye, Chief  
Office of Global Security Risk

cc: Amanda Ravitz  
Assistant Director  
Division of Corporation Finance