



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 6010

October 2, 2007

VIA U.S. MAIL and FACSIMILE

Andrew S. Maslan
Cytomedix, Inc.
Chief Financial Officer
416 Hungerford Drive, Suite 330
Rockville, MD 20850

RE: Cytomedix, Inc.
Form 10-K for the fiscal year ended December 31, 2006
Filed February 26, 2007
File No. 001-32518

Dear Mr. Maslan:

We have completed our review of your Form 10-K and related filings and do not, at this time, have any further comments.

Sincerely,

Martin F. James
Senior Assistant Chief Accountant