

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
SCHEDULE 13G
UNDER THE SECURITIES EXCHANGE ACT OF 1934

CYTORI THERAPEUTICS, INC.
(Name of Issuer)

COMMON STOCK
(Title of Class of Securities)

23283K105
(CUSIP Number)

DECEMBER 31, 2006
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

PERSONS WHO ARE TO RESPOND TO THE COLLECTION OF INFORMATION CONTAINED IN THIS FORM ARE NOT REQUIRED TO RESPOND UNLESS THE FORM DISPLAYS A CURRENTLY VALID OMB CONTROL NUMBER.

SEC 1745 (12-02)

CUSIP No. 23283K105

13G

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1.

NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

NEIL GAGNON

2.

CHECK THE APPROPRIATE BOX IF A GROUP*

(a)
(b)

3.

SEC USE ONLY

4.

CITIZENSHIP OR PLACE OF ORGANIZATION

UNITED STATES OF AMERICA

NUMBER OF SHARES	5.	SOLE VOTING POWER	1,000,122
BENEFICIALLY OWNED BY	6.	SHARED VOTING POWER	446,846
EACH REPORTING PERSON WITH:	7.	SOLE DISPOSITIVE POWER	940,521
	8.	SHARED DISPOSTIVE POWER	1,351,069
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON		2,291,590
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)		
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)		12.24%
12.	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)		IN

ITEM 1.

(a) Name of Issuer: CYTORI THERAPEUTICS, INC.

(b) Address of Issuer's Principal Executive Offices:
3020 CALLAN ROAD
SAN DIEGO, CA 92121

ITEM 2.

(a) Name of Person Filing: NEIL GAGNON

(b) Address of Principal Business Office or, if none, Residence:
1370 AVE. OF THE AMERICAS, SUITE 2400
NEW YORK, NY 10019

(c) Citizenship: US

(d) Title of Class of Securities: COMMON STOCK, PAR VALUE \$0.001 PER SHARE

(e) CUSIP Number: 23283K105

ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO SS.SS.240.13D-1(B) OR 240.13D-2(B) OR (C), CHECK WHETHER THE PERSON FILING IS A:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C 80a-8).
- (e) An investment adviser in accordance with ss.240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with ss.240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with ss. 240.13d-1(b)(1)(ii)(G);
- (h) A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) Group, in accordance with ss.240.13d-1(b)(1)(ii)(J).

ITEM 4. OWNERSHIP.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount beneficially owned: As of December 31, 2006, Neil Gagnon beneficially owned 2,291,590 shares of Common Stock of Cytori Therapeutics, Inc., which amount includes (i) 489,411 shares beneficially owned by Mr. Gagnon over which he has sole voting power and sole dispositive power; (ii) 55,036 shares beneficially owned by Mr. Gagnon over which he has sole voting power and shared dispositive power; (iii) 282,185 shares beneficially owned by Lois Gagnon, Mr. Gagnon's wife, over which he has shared voting power and shared dispositive power; (iv) 2,955 shares beneficially owed by Mr. Gagnon and Mrs. Gagnon as Joint Tenants with Rights of Survivorship, over which he has shared voting power and shared dispositive power; (v) 63,446 shares held by the Lois E. and Neil E. Gagnon Foundation (the "Foundation"), of which Mr. Gagnon is a trustee and over which he has shared voting power and shared dispositive power; (vi) 98,260 shares held by the Gagnon Family Limited Partnership (the "Partnership") of which Mr. Gagnon is a partner and over which he has shared voting power and shared dispositive power; (vii) 80,660 shares held by the Gagnon Grandchildren Trust (the "Trust") over which Mr. Gagnon has shared dispositive power but no voting power; (viii) 447,695 shares held by four hedge funds (collectively, the "Funds"), of which Mr. Gagnon is either the principal executive officer of the manager or the managing member of a member of the general partner or the managing member and over which he has sole dispositive power and sole voting power; (ix) 3,415 shares held by the Gagnon Securities LLC Profit Sharing Plan and Trust (the "Plan") of which Mr. Gagnon is a Trustee and over which Mr. Gagnon has sole voting power and sole dispositive power; (x) 4,565 shares held by the Plan over which Mr. Gagnon has sole voting power and shared dispositive power; and (xi) 763,962 shares held for certain customers of Gagnon Securities LLC, of which Mr. Gagnon is the managing member and the principal owner and over which he has shared dispositive but no voting power.
- (b) Percent of class: 12.24% beneficially owned by Mr. Gagnon. Calculation of percentage of beneficial ownership is based on 18,722,735 shares of Issuer's Common Stock outstanding as of November 14, 2006, as reported by the Issuer on its Form 10-Q for the period ended September 30, 2006.

(c)	Number of shares as to which the person has:	
	(i) Sole power to vote or to direct the vote:	1,000,122
	(ii) Shared power to vote or to direct the vote:	446,846
	(iii) Sole power to dispose or to direct the disposition of:	940,521
	(iv) Shared power to dispose or to direct the disposition of:	1,351,069

ITEM 5-9 Not Applicable

Filing of this statement by Mr. Gagnon shall not be deemed an admission that he beneficially owns the securities reported herein as held in customer accounts at Gagnon Securities LLC or by the Foundation, the Partnership, the Trust, the Funds or the Plan. Mr. Gagnon expressly disclaims beneficial ownership of all securities held in such customer accounts or by the Foundation, the Partnership, the Trust, the Funds or Plan. No single client's interest as reported in the customer accounts at Gagnon Securities LLC exceeds 5% of the outstanding Common Stock of the Issuer.

ITEM 10. CERTIFICATION

(a) The following certification shall be included if the statement is filed pursuant to ss.240.13d-1(b):

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect. [X]

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

FEBRUARY 5, 2007

Date

/S/ NEIL GAGNON

Signature

NEIL GAGNON
Name/Title

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative other than an executive officer or general partner of the filing person, evidence of the representative's authority to sign on behalf of such person shall be filed with the statement, provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

NOTE: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. SEE ss.240.13d-7 for other parties for whom copies are to be sent.

ATTENTION: INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACT CONSTITUTE FEDERAL CRIMINAL VIOLATIONS (SEE 18 U.S.C. 1001)