

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

FORM S-8

REGISTRATION STATEMENT UNDER THE  
SECURITIES ACT OF 1933

**NILE THERAPEUTICS, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
Incorporation or organization)

**4 West 4<sup>th</sup> Ave., Suite 400**  
**San Mateo, California 94402**  
**Telephone (650) 458-2670**  
(Address of principal executive offices)

**88-0363465**  
(I.R.S. Employer  
Identification No.)

**AMENDED AND RESTATED 2005 STOCK OPTION PLAN**  
(Full title of the Plan)

Daron Evans  
Chief Financial Officer  
Nile Therapeutics, Inc.  
4 West 4<sup>th</sup> Ave., Suite 400  
San Mateo, CA 94402  
Telephone: (650) 458-2670  
(Name and address of agent for service)

**Copies to:**  
Christopher J. Melsha, Esq.  
Sean M. Nagle, Esq.  
Fredrikson & Byron, P.A.  
200 South 6th Street, Suite 4000  
Minneapolis, Minnesota 55402  
Telephone: (612) 492-7000  
Facsimile: (612) 492-7077

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company

**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered	Proposed Maximum Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, par value \$.001 per share	3,982,324 shares	\$ 0.75	\$ 2,986,743	\$ 346.76

- (1) In addition, pursuant to Rule 416(c) under the Securities Act of 1933, this registration statement also covers an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plan(s) described herein.
- (2) Estimated solely for the purpose of determining the registration fee pursuant to Rule 457(c) and (h) and based upon a \$0.75 per share average of the high and low sales prices of the Registrant's Common Stock on the OTCQB Marketplace on July 18, 2011.

## EXPLANATORY NOTE

The purpose of this Registration Statement is to register 3,982,324 additional shares of Common Stock for issuance under the Registrant's Amended and Restated 2005 Stock Option Plan, as amended (the "Plan"), thus increasing the total number of shares registered for issuance under the Plan from 5,517,676 to 9,500,000. With the exception of Part II, Item 8, the contents of the Registrant's Registration Statement on Form S-8, Reg. No. 333-152283, are incorporated herein by reference.

### PART II

#### Item 8. Exhibits.

<b>Exhibit</b>	<b>Description</b>
4.1	Registrant's Amended and Restated 2005 Stock Option Plan, as amended through July 26, 2010 (incorporated by reference to Appendix A to the Registrant's definitive proxy statement on Schedule 14A filed June 15, 2010).
4.2	Form of Stock Option Agreement (incorporated by reference to Exhibit 10.10 to the Registrant's Current Report on Form 8-K filed September 21, 2007).
4.3	Form of Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.11 to the Registrant's Current Report on Form 8-K filed September 21, 2007).
4.4	Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed February 9, 2007).
4.5	Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed February 9, 2007).
5.1	Opinion of Fredrikson & Byron, P.A.
23.1	Consent of Crowe Horwath LLP
23.2	Consent of Fredrikson & Byron, P.A. (included in Exhibit 5.1)
24.1	Power of Attorney (included on signature page hereof)

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Mateo, State of California, on July 22, 2011.

### Nile Therapeutics, Inc.

By: /s/ Daron Evans  
Daron Evans  
Chief Financial Officer

## POWER OF ATTORNEY

Each person whose signature to this Registration Statement appears below hereby constitutes and appoints Joshua Kazam and Daron Evans, and each of them singly, as his true and lawful attorney-in-fact and agent, with full power of substitution, to sign on his behalf individually and in the capacity stated below and to perform any acts necessary to be done in order to file all amendments to this Registration Statement and any and all instruments or documents filed as part of or in connection with this Registration Statement or the amendments thereto and each of the undersigned does hereby ratify and confirm all that said attorneys-in-fact and agents, or their substitutes, shall do or cause to be done by virtue hereof. The undersigned also grants to said attorneys-in-fact, full power and authority to do and perform any and all acts necessary or incidental to the performance and execution of the powers herein expressly granted. This Power of Attorney shall remain in effect until revoked in writing by the undersigned.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Joshua A. Kazam</u> Joshua A. Kazam	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	July 22, 2011
<u>/s/ Daron Evans</u> Daron Evans	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	July 22, 2011
<u>/s/ Arie S. Belldegrun</u> Arie S. Belldegrun, M.D.	Director	July 22, 2011
<u>/s/ Richard B. Brewer</u> Richard B. Brewer	Chairman of the Board	July 22, 2011
<u>/s/ Peter M. Kash</u> Peter M. Kash	Director	July 22, 2011
<u>/s/ Pedro Granadillo</u> Pedro Granadillo	Director	July 22, 2011
<u>/s/ Frank Litvack</u> Frank Litvack, M.D.	Director	July 22, 2011
<u>/s/ Paul A. Mieyal</u> Paul A. Mieyal, Ph.D.	Director	July 22, 2011
<u>/s/ Gregory W. Schafer</u> Gregory W. Schafer	Director	July 22, 2011

INDEX TO EXHIBITS FILED HERewith

Exhibit	Description
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23.1	Consent of Crowe Horwath LLP

July 22, 2011

Nile Therapeutics, Inc.  
 4 West 4<sup>th</sup> Ave., Suite 400  
 San Mateo, CA 94402

Ladies and Gentlemen:

We are acting as corporate counsel to Nile Therapeutics, Inc. (the "**Company**") in connection with the filing by the Company of a registration statement on Form S-8 (the "**Registration Statement**") under the Securities Act of 1933, as amended (the "**Act**") covering an additional 3,982,324 shares (the "**Shares**") of the Company's common stock, par value \$0.001 per share, issuable pursuant to the Company's Amended & Restated 2005 Stock Option Plan, as amended (the "**Plan**").

In acting as such counsel and for the purpose of rendering this opinion, we have reviewed copies of the following, as presented to us by the Company: (i) the Company's Certificate of Incorporation; (ii) the Company's Bylaws, as amended; (iii) certain corporate resolutions and minutes adopted by the Board of Directors and stockholders of the Company pertaining to the adoption, approval and amendment of the Plan; (iv) the Plan; and (v) the Registration Statement. We have assumed the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies thereof, and the due execution and delivery of all documents where due execution and delivery are a prerequisite to the effectiveness thereof.

Based on, and subject to, the foregoing and upon representations and information provided by the Company or its officers or directors, it is our opinion as of this date that, upon issuance and delivery of the Shares against receipt by the Company of the consideration for the Shares pursuant to the terms of the Plan, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission.

Very truly yours,

**Fredrikson & Byron, P.A.**

By: /s/ Christopher J. Melsha  
 Its: Vice President

Attorneys & Advisors  
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**Consent of Independent Registered Public Accounting Firm**

Nile Therapeutics, Inc.  
4 West 4<sup>th</sup> Ave., Suite 400  
San Mateo, CA 94402

We consent to the incorporation by reference in this Registration Statement on Form S-8 of Nile Therapeutics, Inc. of our report dated March 14, 2011, relating to the financial statements appearing in the Annual Report on Form 10-K of Nile Therapeutics, Inc. for the year ended December 31, 2010.

/s/ Crowe Horwath LLP

New York, New York  
July 22, 2011

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