

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13D A/2

Under the Securities Exchange Act of 1934  
(Amendment No. 2)\*

**NILE THERAPEUTICS, INC.**

(Name of Issuer)

**Shares of Common Stock, par value \$0.001 per share**  
(Title of Class of Securities)

**654145101**

(CUSIP Number)

**Arthur H. Amron, Esq.**  
**Wexford Capital LP**  
**411 West Putnam Avenue**  
**Greenwich, CT 06830**  
**(203) 862-7012**

(Name, Address and Telephone Number of Person Authorized to  
Receive Notices and Communications)

**May 23, 2010**

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), Rule 13d-1(f) or Rule 13d-1(g), check the following box.

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

\* 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 disclosures provided in a prior cover page.

The information required on 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 other subject to the liabilities of that section of Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1	Names of Reporting Persons. I.R.S. Identification Nos. of above Persons (entities only)	Iota Investors LLC
2	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3	SEC Use Only	
4	Source of Funds (See Instructions)	OO
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6	Citizenship or Place of Organization	Delaware
	Number of Shares Beneficially Owned by Each Reporting Person With	
	7 Sole Voting Power	0
	8 Shared Voting Power (see Item 5 below)	1,926,944
	9 Sole Dispositive Power	0
	10 Shared Dispositive Power (see Item 5 below)	1,926,944
11	Aggregate Amount Beneficially Owned by Each Reporting Person *includes 16,841 warrants exercisable to acquire 16,841 shares of common stock	*1,926,944
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)	5.57%
14	Type of Reporting Person (See Instructions)	OO

1	Names of Reporting Persons. I.R.S. Identification Nos. of above Persons (entities only)	Wexford Spectrum Investors LLC
2	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3	SEC Use Only	
4	Source of Funds (See Instructions)	OO
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6	Citizenship or Place of Organization	Delaware
	Number of Shares Beneficially Owned by Each Reporting Person With	
	7 Sole Voting Power	0
	8 Shared Voting Power (see Item 5 below)	696,675
	9 Sole Dispositive Power	0
	10 Shared Dispositive Power (see Item 5 below)	696,675
11	Aggregate Amount Beneficially Owned by Each Reporting Person	696,675
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)	2.02%
14	Type of Reporting Person (See Instructions)	OO

1	Names of Reporting Persons. I.R.S. Identification Nos. of above Persons (entities only)	Wexford Capital LP
2	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3	SEC Use Only	
4	Source of Funds (See Instructions)	OO
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6	Citizenship or Place of Organization	Delaware
	Number of Shares Beneficially Owned by Each Reporting Person With	
	7 Sole Voting Power	0
	8 Shared Voting Power (see Item 5 below)	2,746,952
	9 Sole Dispositive Power	0
	10 Shared Dispositive Power (see Item 5 below)	2,746,952
11	Aggregate Amount Beneficially Owned by Each Reporting Person *includes 16,841 warrants exercisable to acquire 16,841 shares of common stock	*2,746,952
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)	7.92%
14	Type of Reporting Person (See Instructions)	PN

1	Names of Reporting Persons. I.R.S. Identification Nos. of above Persons (entities only)	Wexford GP LLC
2	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3	SEC Use Only	
4	Source of Funds (See Instructions)	OO
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6	Citizenship or Place of Organization	Delaware
	Number of Shares Beneficially Owned by Each Reporting Person With	
	7 Sole Voting Power	0
	8 Shared Voting Power (see Item 5 below)	2,746,952
	9 Sole Dispositive Power	0
	10 Shared Dispositive Power (see Item 5 below)	2,746,952
11	Aggregate Amount Beneficially Owned by Each Reporting Person *includes 16,841 warrants exercisable to acquire 16,841 shares of common stock and 123,333 stock options exercisable to acquire 123,333 shares of common stock	*2,746,952
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)	7.92%
14	Type of Reporting Person (See Instructions)	OO

1	Names of Reporting Persons. I.R.S. Identification Nos. of above Persons (entities only)	Charles E. Davidson
2	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3	SEC Use Only	
4	Source of Funds (See Instructions)	OO
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6	Citizenship or Place of Organization	United States
	Number of Shares Beneficially Owned by Each Reporting Person With	
	7 Sole Voting Power	0
	8 Shared Voting Power (see Item 5 below)	2,746,952
	9 Sole Dispositive Power	0
	10 Shared Dispositive Power (see Item 5 below)	2,746,952
11	Aggregate Amount Beneficially Owned by Each Reporting Person *includes 16,841 warrants exercisable to acquire 16,841 shares of common stock and 123,333 stock options exercisable to acquire 123,333 shares of common stock	*2,746,952
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)	7.92%
14	Type of Reporting Person (See Instructions)	IN

1	Names of Reporting Persons. I.R.S. Identification Nos. of above Persons (entities only)	Joseph M. Jacobs
2	Check the Appropriate Box if a Member of a Group (See Instructions)	(a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3	SEC Use Only	
4	Source of Funds (See Instructions)	OO
5	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)	<input type="checkbox"/>
6	Citizenship or Place of Organization	United States
	Number of Shares Beneficially Owned by Each Reporting Person With	
	7 Sole Voting Power	0
	8 Shared Voting Power (see Item 5 below)	2,746,952
	9 Sole Dispositive Power	0
	10 Shared Dispositive Power (see Item 5 below)	2,746,952
11	Aggregate Amount Beneficially Owned by Each Reporting Person *includes 16,841 warrants exercisable to acquire 16,841 shares of common stock and 123,333 stock options exercisable to acquire 123,333 shares of common stock	*2,746,952
12	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)	<input type="checkbox"/>
13	Percent of Class Represented by Amount in Row (11)	7.92%
14	Type of Reporting Person (See Instructions)	IN

This Amendment No. 2 to Schedule 13D modifies and supplements the Schedule 13D initially filed on September 24, 2007, as amended by Amendment No. 1 to the Schedule 13D filed on February 25, 2010 (the "Statement"), with respect to the common stock, \$0.001 par value per share (the "Common Stock"), of Nile Therapeutics, Inc. (the "Company"). Except to the extent supplemented by the information contained in this Amendment No. 2, the Statement, as amended as provided herein, remains in full force and effect. Capitalized terms used herein without definition have the respective meanings ascribed to them in the Statement.

**Item 3. Source and Amount of Funds or Other Consideration.**

Since the date of the last amended, the 2009 stock option granted by the Company to Paul Mieyal and assigned to Wexford Capital LP will vest as of July 21, 2010, therefore the 65,000 shares issuable upon the exercise of such option are now included in the amount of shares beneficially owned by Wexford Capital LP, Wexford GP LLC, Charles E. Davidson and Joseph M. Jacobs.

**Item 4. Purpose of Transaction.**

The Reporting Persons consider the acquisition and ownership of the Common Stock to be an investment.

Except as set forth above, none of the Reporting Persons have any plans or proposals which relate to or would result in (i) the acquisition by any person of additional securities of the Company or the disposition of securities of the Company, (ii) an extraordinary corporate transaction, such as a merger, reorganization, or liquidation, involving the Company or any of its securities, (iii) a sale or transfer of a material amount of the assets of the Company or any of its subsidiaries, (iv) any change in the present board of directors or management of the Company, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board; (v) any material change in the present capitalization or dividend policy of the Company, (vi) any other material change in the Company's business or corporate structure, (vii) changes in the Company's charter, bylaws, or instruments corresponding thereto or other actions which may impede the acquisition of control of the Company by any person, (viii) causing a class of the securities of the Company to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter dealer quotation system of a registered national securities association, (ix) a class of equity securities of the Company becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Exchange Act, or (x) any action similar to any of those enumerated above. However, Wexford Capital retains its rights to modify its plans with respect to the transactions described in this Item 4, to acquire or dispose of securities of the Company and to formulate plans and proposals that could result in the occurrence of any such events, subject to applicable laws and regulations.

**Item 5. Interest in Securities of the Issuer**

The aggregate number and percentage of shares of Common Stock beneficially owned by the Reporting Persons (on the basis of 34,560,824 shares of Common Stock issued and outstanding as reported in the Company's Form 10-Q filed with the Commission on May 14, 2010) are as follows:

**Iota Investors LLC**

(a) Amount beneficially owned:	1,926,944	Percent of class:	5.57%
(b) Number of shares as to which the person has:			
(i) Sole power to vote or to direct the vote:			0
(ii) Shared power to vote or to direct the vote:			1,926,944
(iii) Sole power to dispose or to direct the disposition of:			0
(iv) Shared power to dispose or to direct the disposition of:			1,926,944

**Wexford Spectrum Investors LLC**

(a) Amount beneficially owned:	696,675	Percent of class:	2.02%
(b) Number of shares as to which the person has:			
(i) Sole power to vote or to direct the vote:			0
(ii) Shared power to vote or to direct the vote:			696,675
(iii) Sole power to dispose or to direct the disposition of:			0
(iv) Shared power to dispose or to direct the disposition of:			696,675

**Wexford Capital LP**

(a) Amount beneficially owned:	2,746,952	Percent of class:	7.92%
(b) Number of shares as to which the person has:			
(i) Sole power to vote or to direct the vote:			0
(ii) Shared power to vote or to direct the vote:			2,746,952
(iii) Sole power to dispose or to direct the disposition of:			0
(iv) Shared power to dispose or to direct the disposition of:			2,746,952

**Wexford GP LLC**

(a) Amount beneficially owned:	2,746,952	Percent of class:	7.92%
(b) Number of shares as to which the person has:			
(i) Sole power to vote or to direct the vote:			0
(ii) Shared power to vote or to direct the vote:			2,746,952
(iii) Sole power to dispose or to direct the disposition of:			0
(iv) Shared power to dispose or to direct the disposition of:			2,746,952

**Charles E. Davidson**

(a) Amount beneficially owned:	2,746,952	Percent of class:	7.92%
(b) Number of shares as to which the person has:			
(i) Sole power to vote or to direct the vote:			0
(ii) Shared power to vote or to direct the vote:			2,746,952
(iii) Sole power to dispose or to direct the disposition of:			0
(iv) Shared power to dispose or to direct the disposition of:			2,746,952

**Joseph M. Jacobs**

(a) Amount beneficially owned:	2,746,952	Percent of class:	7.92%
(b) Number of shares as to which the person has:			
(i) Sole power to vote or to direct the vote:			0
(ii) Shared power to vote or to direct the vote:			2,746,952
(iii) Sole power to dispose or to direct the disposition of:			0
(iv) Shared power to dispose or to direct the disposition of:			2,746,952

Wexford Capital may, by reason of its status as managing member of Iota Investors LLC ("Iota") and Wexford Spectrum Investors LLC ("WSI"), be deemed to own beneficially the shares of Common Stock of which Iota and WSI possess beneficial ownership. Wexford GP may, by reason of its status as General Partner of Wexford Capital, be



deemed to own beneficially the shares of Common Stock of which Iota and WSI possess beneficial ownership. Each of Messrs. Davidson and Jacobs may, by reason of his status as a controlling person of Wexford GP, be deemed to own beneficially the shares of Common Stock of which Iota and WSI possess beneficial ownership. Each of Wexford Capital, Wexford GP, Davidson and Jacobs shares the power to vote and to dispose of the shares of Common Stock beneficially owned by Iota and WSI. Each of Wexford Capital, Wexford GP and Messrs. Davidson and Jacobs disclaims beneficial ownership of the shares of Common Stock owned by Iota and WSI and this report shall not be deemed as an admission that they are the beneficial owner of such securities except, in the case of Davidson and Jacobs, to the extent of their respective personal ownership interests in any of the members of Iota and WSI.

Except as set forth in Item 3 above, the Reporting Persons have not effected any transactions in the Common Stock during the 60 days preceding the date of this Schedule 13D A/2.

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**SIGNATURE**

After reasonable inquiry and to the best of each of the undersigned's knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: June 10, 2010

**IOTA INVESTORS LLC**

By: /s/ Arthur H. Amron  
Name: Arthur H. Amron  
Title: Vice President and Assistant Secretary

**WEXFORD SPECTRUM INVESTORS LLC**

By: /s/ Arthur H. Amron  
Name: Arthur H. Amron  
Title: Vice President and Assistant Secretary

**WEXFORD CAPITAL LP**

By: /s/ Arthur H. Amron  
Name: Arthur H. Amron  
Title: Partner and Secretary

**WEXFORD GP LLC**

By: /s/ Arthur H. Amron  
Name: Arthur H. Amron  
Title: Vice President and Assistant Secretary

/s/ Charles E. Davidson  
**CHARLES E. DAVIDSON**

/s/ Joseph M. Jacobs  
**JOSEPH M. JACOBS**