

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

**FORM 8-A**

**FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES  
PURSUANT TO SECTION 12(b) OR (g) OF THE  
SECURITIES EXCHANGE ACT OF 1934**

**Aptose Biosciences Inc.**

(Exact name of registrant as specified in its charter)

**Ontario, Canada**  
(State of incorporation or organization)

**N/A**  
(I.R.S. Employer Identification No.)

**2 Meridian Road**  
**Toronto, Ontario, Canada**  
(Address of principal executive offices)

**M9W 4Z7**  
(Zip Code)

**Securities to be registered pursuant to Section 12(b) of the Act:**

**Title of each class  
to be so registered**

**Name of exchange on which  
each class is to be registered**

Common Shares, without par value

The NASDAQ Stock Market LLC

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), check the following box.

Securities Act registration statement file number to which the form relates: Not applicable.

Securities to be registered pursuant to Section 12(g) of the Act: None

**Item 1. Description of Registrant's Securities to be Registered.**

A description of the Common Shares, without par value, of Aptose Biosciences Inc., formerly known as Lorus Therapeutics Inc. (the "Registrant"), to be registered hereunder is contained in the Registrant's Annual Report on Form 20-F, Item 10, for the fiscal year ended May 31, 2014 filed with the Securities and Exchange Commission on July 30, 2014 and is incorporated herein by reference.

**Item 2. Exhibits.**

Under the "Instructions as to Exhibits" with respect to Form 8-A, no exhibits are required to be filed with this registration statement because no other securities of the Registrant are registered on The NASDAQ Stock Market LLC and the securities registered hereby are not being registered pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended.

**SIGNATURE**

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

**APTOSE BIOSCIENCES INC.**

Date: October 21, 2014

By: /s/ Gregory K. Chow

Gregory K. Chow  
Senior Vice President and CFO