

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL	
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

<p>1. Name and Address of Reporting Person*</p> <p><u>VENROCK HEALTHCARE CAPITAL PARTNERS LP</u></p> <hr/> <p>(Last) (First) (Middle)</p> <p>3340 HILLVIEW AVENUE</p> <hr/> <p>(Street)</p> <p>PALO ALTO CA 94306</p> <hr/> <p>(City) (State) (Zip)</p>	<p>2. Date of Event Requiring Statement (Month/Day/Year)</p> <p>12/22/2009</p>	<p>3. Issuer Name and Ticker or Trading Symbol</p> <p><u>NEUROCRINE BIOSCIENCES INC [NBIX]</u></p> <hr/> <p>4. Relationship of Reporting Person(s) to Issuer (Check all applicable)</p> <p>Director <input checked="" type="checkbox"/> 10% Owner</p> <p>Officer (give title below) Other (specify below)</p>	<p>5. If Amendment, Date of Original Filed (Month/Day/Year)</p> <hr/> <p>6. Individual or Joint/Group Filing (Check Applicable Line)</p> <p>Form filed by One Reporting Person</p> <p><input checked="" type="checkbox"/> Form filed by More than One Reporting Person</p>
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Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock	4,044,789	I	By fund ⁽¹⁾
Common Stock	739,900	I	By fund ⁽²⁾

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			

1. Name and Address of Reporting Person*

VENROCK HEALTHCARE CAPITAL PARTNERS LP

(Last) (First) (Middle)

3340 HILLVIEW AVENUE

(Street)

PALO ALTO CA 94306

(City) (State) (Zip)

1. Name and Address of Reporting Person*

VHCP Co-Investment Holdings, LLC

(Last) (First) (Middle)

3340 HILLVIEW AVENUE

(Street)

PALO ALTO CA 94306

(City) (State) (Zip)

1. Name and Address of Reporting Person*

Hove Anders D

(Last) (First) (Middle)

C/O VENROCK ASSOCIATES,
30 ROCKEFELLER PLAZA, ROOM 5508

(Street)

NEW YORK NY 10112

(City) (State) (Zip)

1. Name and Address of Reporting Person*

ROBERTS BRYAN E

(Last) (First) (Middle)

C/O VENROCK ASSOCIATES,
3340 HILLVIEW AVENUE

(Street)

PALO ALTO CA 94306

(City) (State) (Zip)

1. Name and Address of Reporting Person*

VHCP Management, LLC

(Last) (First) (Middle)

3340 HILLVIEW AVENUE

(Street)

PALO ALTO CA 94306

(City) (State) (Zip)

Explanation of Responses:

1. Consists of shares of common stock held directly by Venrock Healthcare Capital Partners, L.P. ("VHCP LP"). VHCP Management, LLC ("VHCP Management") is the general partner of VHCP LP and may be deemed to beneficially own these shares. Anders Hove and Bryan Roberts are the managing members of VHCP Management and may be deemed to beneficially own these shares. Each reporting person disclaims beneficial ownership of these shares except to the extent of his or its respective pecuniary interest therein.

2. Consists of shares of common stock held directly by Venrock Co-Investment Holdings, LLC ("Venrock Co-Investment"). VHCP Management is the manager of Venrock Co-Investment and may be deemed to beneficially own these shares. Messrs. Hove and Roberts are the managing members of VHCP Management and may be deemed to beneficially own these shares. Each reporting person disclaims beneficial ownership of these shares except to the extent of his or its respective pecuniary interest therein.

Remarks:

/s/ David L. Stepp, Authorized 01/04/2010
Signatory

/s/ David L. Stepp, Authorized 01/04/2010
Signatory

/s/ David L. Stepp, as attorney- 01/04/2010
in-fact

/s/ David L. Stepp, as attorney- 01/04/2010
in-fact

/s/ David L. Stepp, Authorized 01/04/2010
Signatory

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.