

OMB APPROVAL	
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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

<b>1. Name and Address of Reporting Person*</b> ACP IV, L.P. <hr/> (Last) (First) (Middle) ONE EMBARCADERO CENTER, SUITE 3700, <hr/> (Street) SAN FRANCISCO CA 94111 <hr/> (City) (State) (Zip)	<b>2. Date of Event Requiring Statement (Month/Day/Year)</b> 02/10/2011	<b>3. Issuer Name and Ticker or Trading Symbol</b> ACELRX PHARMACEUTICALS INC [ACRX]	
		<b>4. Relationship of Reporting Person(s) to Issuer</b> (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) <input type="checkbox"/> Other (specify below)	<b>5. If Amendment, Date of Original Filed (Month/Day/Year)</b> <hr/> <b>6. Individual or Joint/Group Filing (Check Applicable Line)</b> <input type="checkbox"/> Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Beneficially Owned**

1. Title of Security (Instr. 4)	2. Amount of Securities Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)

**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 <sup>M</sup>			
Series A Convertible Preferred Stock	(1)	(1)	Common Stock	500,000 <sup>(2) (3)</sup>	\$ <sup>(1) (3)</sup>	D <sup>(4)</sup>	
Series B Convertible Preferred Stock	(1)	(1)	Common Stock	218,750 <sup>(2) (5)</sup>	\$ <sup>(1) (5)</sup>	D <sup>(4)</sup>	
Series C Convertible Preferred Stock	(1)	(1)	Common Stock	810,129 <sup>(2) (6)</sup>	\$ <sup>(1) (6)</sup>	D <sup>(4)</sup>	
Convertible Promissory Notes	(7)	(7)	Common Stock	\$ 1,742,043.52 <sup>(7)</sup>	\$ <sup>(7)</sup>	D <sup>(4)</sup>	
Warrant to Purchase Series C Convertible Preferred Stock	(8)	(9)	Series C Convertible Preferred Stock	110,457 <sup>(2)</sup>	\$ 3.9428 <sup>(2)</sup>	D <sup>(4)</sup>	

**Explanation of Responses:**

- The shares of Series A Convertible Preferred Stock (the "Series A Shares"), the shares of the Series B Convertible Preferred Stock (the "Series B Shares"), and the shares of Series C Convertible Preferred Stock (the "Series C Shares") are immediately convertible into shares of the Issuer's common stock. These shares have no expiration date.
- Reflects 1-4 reverse stock split of the Issuer's outstanding securities effective January 28, 2011.
- These shares will automatically convert into 682,904 shares of the Issuer's common stock immediately prior to the closing of the Issuer's initial public offering.
- ACMP IV, LLC ("ACMPIV") is the general partner of ACP IV, L.P. ("ACPIV"). Jean Deleage, Daniel Janney, David Mack, and Guy Nohra are directors of ACMPIV and may be deemed to share voting and dispositive power with respect to all securities of the Issuer held by ACPIV. Guy Nohra is also a director of the Issuer. Mr. Deleage, Mr. Janney, Mr. Mack, and Mr. Nohra disclaim beneficial ownership of such securities except to the extent of his proportionate pecuniary interest therein.
- These shares will automatically convert into 328,064 shares of the Issuer's common stock immediately prior to the closing of the Issuer's initial public offering.
- These shares shall automatically convert into common stock on a one-to-one basis upon the closing of the Issuer's initial public offering.
- Principal amount of \$1,742,043.52, plus interest accrued at 4% per annum shall automatically convert into shares of common stock upon the closing of the Issuer's initial public offering at 80% of the initial public offering price per share.
- Exercisable contingent upon and effective immediately prior to the closing of the Issuer's initial public offering.
- Pursuant to its terms, warrant shall terminate at the closing of the Issuer's initial public offering. ACPIV has elected to net exercise the warrants contingent upon and effective immediately prior to the closing of the Issuer's initial public offering of common stock. In the event the Issuer's public offering does not occur, the warrant shall terminate on September 14, 2017, unless earlier terminated in accordance with its terms, in a liquidation or change of control transaction.

/s/ by ACMP IV, LLC,  
general partner, by Guy      02/10/2011  
Nohra, Director

\*\* Signature of Reporting Person      Date

/s/ Daniel Janney      02/10/2011

\*\* Signature of Reporting Person      Date

/s/ Jean Deleage      02/10/2011

\*\* Signature of Reporting Person      Date

/s/ David Mack      02/10/2011

\*\* Signature of Reporting Person      Date

/s/ by Guy Nohra, Director      02/10/2011

\*\* Signature of Reporting Person      Date

/s/ Guy Nohra      02/10/2011

\_\_\_\_\_  
\*\* 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.**