

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 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Quinn Anthony</u> <hr/> (Last) (First) (Middle) C/O AEGLEA BIOTHERAPEUTICS, INC. 901 S. MOPAC EXPRESSWAY, SUITE 250 <hr/> (Street) AUSTIN TX 78746 <hr/> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 04/06/2016	3. Issuer Name and Ticker or Trading Symbol <u>Aeglea BioTherapeutics, Inc. [ AGLE ]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below)	5. If Amendment, Date of Original Filed (Month/Day/Year) <hr/> 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person 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 Beneficially 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				
Director Stock Option (right to buy)	(I)	03/17/2026	Common Stock	23,809	5.46	D

**Explanation of Responses:**

1. The stock option vested and became exercisable as to 1/36th of the shares subject to the option on April 3, 2016, and thereafter vests as to 1/36th of the shares each month in equal installments, until such time as the option is 100% vested, subject to the continuing service of the Reporting Person on each vesting date.

/s/ Charles N. York II, by                      04/06/2016  
power of attorney

\*\* 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.

**POWER OF ATTORNEY**

**KNOW ALL MEN BY THESE PRESENTS**, that the undersigned hereby constitutes and appoints Charles N. York II, Joey Perrone and Nanette A. Dove, and each of them, as his true and lawful attorney-in-fact to:

(1) execute for and on behalf of the undersigned, in the undersigned's capacity as a representative of Aeglea BioTherapeutics, Inc. (the "**Company**"), any and all Form ID, or Form 3, 4 or 5 reports and any amendments thereto required to be filed by the undersigned in accordance with Section 16(a) of the Securities Exchange Act of 1934 (the "Exchange Act") and the rules thereunder with respect to transactions in the Company's securities;

(2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Form ID, or Form 3, 4 or 5 report and any amendments thereto and timely file such report with the U.S. Securities and Exchange Commission and any stock exchange or similar authority; and

(3) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned, pursuant to this Power of Attorney, shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in his or her discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform each and every act and thing whatsoever requisite, necessary, and proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or his or her substitute or substitutes, shall lawfully do or cause to be done by virtue of this Power of Attorney and the rights and powers herein granted. The undersigned acknowledges that no such attorney-in-fact, in serving in such capacity at the request of the undersigned, is hereby assuming, nor is the Company hereby assuming, any of the undersigned's responsibilities to comply with Section 16 of the Exchange Act.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Form 3, 4 or 5 reports with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

**IN WITNESS WHEREOF**, the undersigned has caused this Power of Attorney to be executed as of this 23rd day of March, 2016.

/s/ Anthony G. Quinn  
Dr. Anthony G. Quinn