

| OMB APPROVAL | |
|--|-----------|
| OMB Number: | 3235-0287 |
| Estimated average burden hours per response: | 0.5 |

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

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>Florence Anthony A. Jr.</u> | | | 2. Issuer Name and Ticker or Trading Symbol <u>GENOCEA BIOSCIENCES, INC. [GNCA]</u> | | | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) <input type="checkbox"/> Other (specify below) <input type="checkbox"/> | | |
| (Last) | (First) | (Middle) | 3. Date of Earliest Transaction (Month/Day/Year) <u>07/24/2020</u> | | | 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person | | |
| 5425 WISCONSIN AVENUE SUITE 800 | | | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | |
| (Street) <u>CHEVY CHASE MD 20815</u> | | | | | | | | |
| (City) (State) (Zip) | | | | | | | | |

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|--------|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price | | | |
| Common Stock | 07/24/2020 | | p ⁽¹⁾ | | 3,151,260 | A | \$2.25 | 10,376,936 | I | See Note 2 ⁽²⁾ |

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

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |
|--|--|--------------------------------------|--|--------------------------------|---|--|-----|--|-----------------|---|--|--|---|--|---------------------------|
| | | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | | | | | | Title |
| Warrant to Purchase Common Stock | \$2.25 | 07/24/2020 | | p ⁽¹⁾ | | 3,151,260 | | 07/24/2020 | 07/24/2024 | Common Stock | 3,151,260 | \$0.13 | 3,151,260 | I | See Note 2 ⁽²⁾ |

Explanation of Responses:

- Acquired from the issuer pursuant to a Stock Purchase Agreement dated July 22, 2020, with a closing date of July 24, 2020.
- The Reporting Person is a manager of NEA 16 GP, LLC, which is the sole general partner of NEA Partners 16, L.P. ("NEA Partners 16"). NEA Partners 16 is the sole general partner of New Enterprise Associates 16, L.P. ("NEA 16"), which is the direct beneficial owner of the shares. The Reporting Person disclaims beneficial ownership within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended, or otherwise of such portion of the shares held by NEA 16 in which the Reporting Person has no pecuniary interest.

Remarks:

/s/ Sasha Keough, attorney-in-fact 07/28/2020

** 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 4 (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.