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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. )\*

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Genocea Biosciences, Inc.

(Name of Issuer)

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Common Stock, \$0.001 par value per share

(Title of Class of Securities)

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372427401

(CUSIP Number)

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December 31, 2019

(Date of Event Which Requires Filing of this Statement)

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Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- a.  Rule 13d-1(b)  
b.  Rule 13d-1(c)  
c.  Rule 13d-1(d)

\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1.	Names of Reporting Persons. UBS O'Connor LLC	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) (b)	
3.	SEC Use Only	
4.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power 1,769,460
	6.	Shared Voting Power 0
	7.	Sole Dispositive Power 1,769,460
	8.	Shared Dispositive Power 0
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 1,769,460 (see Item 4)	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 6.3% (see Item 4)	
12.	Type of Reporting Person (See Instructions) OO; IA	

**Item 1.**

(a) Name of Issuer

Genocea Biosciences, Inc. (the “**Issuer**”)

(b) Address of Issuer’s Principal Executive Offices

Cambridge Discovery Park  
100 Acorn Park Drive, 5th Floor  
Cambridge, MA 02140

**Item 2.**

(a) Name of Person Filing

(b) Address of Principal Business Office or, if none, Residence

(c) Citizenship

This Schedule 13G is being filed on behalf of UBS O’Connor LLC, a Delaware limited liability company (the “**Reporting Person**”).

The Reporting Person serves as the investment manager to (i) Nineteen77 Global Multi-Strategy Alpha Master Limited (“**GLEA**”) and (ii) Nineteen77 Global Fundamental Market Neutral Long/Short Master Limited (“**FRLS**”). In such capacity, the Reporting Person exercises voting and investment power over the shares of Common Stock held for the account of GLEA and FRLS. The Reporting Person is a registered investment adviser under Section 203 of the Investment Advisers Act of 1940, as amended. As a result, the Reporting Person may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the shares of Common Stock held for the account of GLEA and FRLS.

The principal business office of the Reporting Person is One North Wacker Drive, 3<sup>rd</sup> Floor, Chicago, Illinois 60606.

(d) Title of Class of Securities

Common Stock, \$0.001 par value per share (the “**Common Stock**”).

(e) CUSIP Number

372427401

**Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:**

- (a)  Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);
- (b)  Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
- (c)  Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
- (d)  Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
- (e)  An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
- (f)  An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
- (g)  A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
- (h)  A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i)  A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j)  A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J);
- (k)  Group, in accordance with § 240.13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution: \_\_\_\_\_

**Item 4. Ownership.**

(a) and (b):

As of the close of business on December 31, 2019, the Reporting Person may have been deemed to have beneficial ownership of 1,769,460 shares of Common Stock, which consisted of (i) 19,170 shares of Common Stock held by GLEA, (ii) 290 shares of Common Stock held by FRLS and (iii) 1,750,000 shares of Common Stock issuable upon exercise of a warrant held by GLEA (the “GLEA Warrant”), and all such shares of Common Stock in the aggregate represented beneficial ownership of approximately 6.3% of the Common Stock, based on (1) 26,149,689 shares of Common Stock outstanding as of October 22, 2019 as reported by the Issuer and (2) 1,750,000 shares of Common Stock issuable upon exercise of the GLEA Warrant.

(c)

Number of shares as to which each Reporting Person has:

- (1) Sole power to vote or to direct the vote: 1,769,460.
- (2) Shared power to vote or to direct the vote: 0.
- (3) Sole power to dispose or to direct the disposition of 1,769,460.
- (4) Shared power to dispose or to direct the disposition of 0.

**Item 5. Ownership of Five Percent or Less of a Class**

Not applicable.

**Item 6. Ownership of More than Five Percent on Behalf of Another Person.**

Not applicable.

**Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company**

The information set forth in Item 2 is hereby incorporated herein by reference.

**Item 8. Identification and Classification of Members of the Group**

Not applicable.

**Item 9. Notice of Dissolution of Group**

Not applicable.

**Item 10. Certification**

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under § 240.14a-11.

**SIGNATURE**

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: February 13, 2020

UBS O'Connor LLC

By: /s/ Michael Esposito  
Name: Michael Esposito  
Title: Chief Compliance Officer

By: /s/ Christopher Smock  
Name: Christopher Smock  
Title: Senior Compliance Officer