

GENOCEA BIOSCIENCES, INC.  
Form SC 13G/A  
February 16, 2016

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

**SCHEDULE 13G**  
**Under the Securities Exchange Act of 1934**  
**(Amendment No. 1)\***

**Genocea Biosciences, Inc.**

**(Name of Issuer)**

**Common Stock, par value \$0.001 per share**

**(Title of Class of Securities)**

**372427104**

**(CUSIP Number)**

**December 31, 2015**

**(Date of Event Which Requires Filing of this Statement)**

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

Rule 13d-1(b)

Rule 13d-1(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).

CUSIP No. 372427104

1. Names of Reporting Persons

Lux Ventures II, L.P.

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

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 167,535

Each 7. Sole Dispositive Power

Reporting

Person 0

8. Shared Dispositive Power

With

167,535

9. Aggregate Amount Beneficially Owned by Each Reporting Person

167,535

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)

0.6%

12. Type of Reporting Person (See Instructions)

PN

CUSIP No. 372427104

1. Names of Reporting Persons

Lux Ventures II Sidecar, L.P.

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

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 7,738

Each 7. Sole Dispositive Power

Reporting

Person 0

8. Shared Dispositive Power

With

7,738

9. Aggregate Amount Beneficially Owned by Each Reporting Person

7,738

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)

<0.1%

12. Type of Reporting Person (See Instructions)

PN

CUSIP No. 372427104

1. Names of Reporting Persons

Lux Venture Partners II, L.P.

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

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 175,273

7. Sole Dispositive Power

Each

Reporting

Person 0

8. Shared Dispositive Power

With

175,273

9. Aggregate Amount Beneficially Owned by Each Reporting Person

175,273

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) "

11. Percent of Class Represented by Amount in Row (9)

0.6%

12. Type of Reporting Person (See Instructions)

PN

CUSIP No. 372427104

1. Names of Reporting Persons

Lux Venture Associates II, 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

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 175,273

Each 7. Sole Dispositive Power

Reporting

Person 0

8. Shared Dispositive Power

With

175,273

9. Aggregate Amount Beneficially Owned by Each Reporting Person

175,273

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)

0.6%

12. Type of Reporting Person (See Instructions)

OO

CUSIP No. 372427104

1. Names of Reporting Persons

Lux Capital Management, 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

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 175,273

Each 7. Sole Dispositive Power

Reporting

Person 0

8. Shared Dispositive Power

With

175,273

9. Aggregate Amount Beneficially Owned by Each Reporting Person

175,273

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)

0.6%

12. Type of Reporting Person (See Instructions)

OO

CUSIP No. 372427104

1. Names of Reporting Persons

Joshua Wolfe

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

United States of America

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 175,273

7. Sole Dispositive Power

Each

Reporting

Person 0

8. Shared Dispositive Power

With

175,273

9. Aggregate Amount Beneficially Owned by Each Reporting Person

175,273

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)

0.6%

12. Type of Reporting Person (See Instructions)

IN

CUSIP No. 372427104

1. Names of Reporting Persons

Peter Hebert

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

United States of America

5. Sole Voting Power

Number of

Shares 0

6. Shared Voting Power

Beneficially

Owned by 175,273

7. Sole Dispositive Power

Each

Reporting

Person 0

8. Shared Dispositive Power

With

175,273

9. Aggregate Amount Beneficially Owned by Each Reporting Person

175,273

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9)

0.6%

12. Type of Reporting Person (See Instructions)

IN

**Item 1.**

**(a) Name of Issuer:**

Genocea Biosciences, Inc. (the Issuer )

**(b) Address of Issuer s Principal Executive Offices:**

100 Acorn Park Drive, 5<sup>th</sup> Floor

Cambridge, MA 02140

**Item 2.**

**(a) Name of Person Filing:**

Lux Ventures II, L.P. ( Lux II ); Lux Ventures II Sidecar II, L.P. ( Lux II Sidecar ); Lux Venture Partners II, L.P. ( Lux Venture Partners ), which is the general partner of each of Lux II and Lux II Sidecar; Lux Venture Associates II, LLC ( Lux Associates ), which is the general partner of Lux Venture Partners; Lux Capital Management, LLC ( Lux Management ), which is the sole member of Lux Associates (collectively, the Reporting Entities and individually, each a Reporting Entity ); and Joshua Wolfe ( Wolfe ) and Peter Hebert ( Hebert ) (collectively, Managers and individually, each a Manager ) are each individual managers of Lux Management. The Reporting Entities and the Managers collectively are referred to as the Reporting Persons .

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

The address and principal business office of the Reporting Persons is Lux Capital, 295 Madison Avenue, 24<sup>th</sup> Floor, New York, NY 10017.

**(c) Citizenship:**

Lux II, Lux II Sidecar and Lux Venture Partners are limited partnerships organized under the laws of the State of Delaware. Lux Associates and Lux Management are limited liability companies organized under the laws of the State of Delaware. Each Manager is a U.S. citizen.

**(d) Title of Class of Securities:**

Common stock, par value \$0.001 per share ( Common Stock ).

**(e) CUSIP Number:**

372427104

**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:**

Not Applicable.

**Item 4.**

The information required by this item with respect to each Reporting Person is set forth in Rows 5 through 9 and 11 of the cover page to this Schedule 13G.

The percent of class represented by the amount beneficially owned by each Reporting Person is based on 28,115,036 shares of Common Stock outstanding on November, 3 2015, as indicated by the Issuer's Form 10-Q filed with the Securities and Exchange Commission on November 5, 2015.

Lux II is the record owner of 167,535 shares of Common Stock (the Lux II Record Shares ) as of December 31, 2015. Lux II Sidecar is the record owner of 7,738 shares of Common Stock (the Lux II Sidecar Record Shares ) as of December 31, 2015. Lux Venture Partners, as the sole general partner of each of Lux II and Lux II Sidecar, may be deemed to beneficially own the Lux II Record Shares and the Lux II Sidecar Record Shares. Lux Associates, as the sole general partner of Lux Venture Partners, may be deemed to beneficially own the Lux II Record Shares and the Lux II Sidecar Record Shares. Lux Management, as the sole member of Lux Associates, may be deemed to beneficially own the Lux II Record Shares and the Lux II Sidecar Record Shares. As the individual managers of Lux Management, each of the Managers also may be deemed to beneficially own Lux II Record Shares and the Lux II Sidecar Record Shares.

By virtue of their relationship as affiliated entities, whose controlling entities have overlapping individual controlling persons, each of Lux II, Lux II Sidecar, Lux Venture Partners, Lux Associates and Lux Management may be deemed to share the power to direct the disposition and vote of the Lux II Record Shares and the Lux II Sidecar Record Shares.

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

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than 5 percent of the class of securities, check the following .

**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 or Control Person**

Not applicable.

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

See Exhibit 2 for Members of the Group.

**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 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.

**Material to be Filed as Exhibits.**

Exhibit 2 Members of the Group.

Exhibit 3 Power of Attorney regarding filings under the Securities Exchange Act of 1934, as amended.

**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.

Dated February 16, 2016

Lux Ventures II, L.P.

By: Lux Venture Partners II, L.P.  
its General Partner

By: Lux Venture Associates II, LLC  
its General Partner

By: Lux Capital Management, LLC  
its Sole Member

By: \*  
Name: Peter Hebert  
Title: Managing Director

Lux Ventures II Sidecar, L.P.

By: Lux Venture Partners II, L.P.  
its General Partner

By: Lux Venture Associates II, LLC  
its General Partner

By: Lux Capital Management, LLC  
its Sole Member

By: \*  
Name: Peter Hebert  
Title: Managing Director

Lux Venture Partners II, L.P.

By: Lux Venture Associates II, LLC  
its General Partner

By: Lux Capital Management, LLC  
its Sole Member

By: \*  
Name: Peter Hebert  
Title: Managing Director

Lux Venture Associates II, LLC

By: Lux Capital Management, LLC  
its Sole Member

By: \*  
Name: Peter Hebert  
Title: Managing Director

Lux Capital Management, LLC

By: \*  
Name: Peter Hebert  
Title: Managing Director

\*  
Joshua Wolfe

\*  
Peter Hebert

\* By: /s/ Peter Hebert  
Peter Hebert as  
Attorney-in-Fact

This Agreement was executed by Peter Hebert pursuant to Powers of Attorney attached hereto as Exhibit 3 and incorporated herein by reference.