

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
SCHEDULE 13D**

Under the Securities Exchange Act of 1934

CRISPER THERAPEUTICS AG

(Name of Issuer)

Common Shares, CHF 0.03 par value per share

(Title of Class of Securities)

H17182108

(CUSIP Number)

John Heard
Abingworth LLP
Princes House
38 Jermyn Street
London, England SW1Y 6DN
+44 20 7534 1500

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

October 24, 2016

(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. []

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7 for other parties to whom copies are to be sent.

*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 disclosures provided in a prior cover page.

The information required on 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).

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only):

Abingworth LLP
98-051-8585

2. Check the Appropriate Box if a Member of a Group (See Instructions):

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions): WC (See Item 3)

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e):

6. Citizenship or Place of Organization: England

Number of	7. Sole Voting Power:	0
Shares Beneficially	8. Shared Voting Power:	2,604,314*
Owned by		
Each Reporting	9. Sole Dispositive Power:	0
Person With	10. Shared Dispositive Power:	2,604,314*

11. Aggregate Amount Beneficially Owned by Each Reporting Person: 2,604,314*

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions):

13. Percent of Class Represented by Amount in Row (11): 6.6%*

14. Type of Reporting Person (See Instructions): PN

*As of November 3, 2016 (the "Filing Date"), Abingworth LLP ("Abingworth") may be deemed to beneficially own an aggregate of 2,604,314 Common Shares, CHF 0.03 par value per share (the "Common Shares"), of CRISPR Therapeutics AG (the "Issuer"). 2,601,814 of the Common Shares reported above are held directly by Abingworth Bioventures VI, LP ("ABV VI"), and 2,500 of the Common Shares reported above are issuable within 60 days of the Filing Date upon exercise of an option (the "Option") held by Kurt von Emster, a director of the Issuer. Abingworth, as the investment manager of ABV VI, may be deemed to beneficially own the 2,601,814 Common Shares held by ABV VI. Under an agreement between Mr. von Emster and Abingworth, Mr. von Emster is deemed to hold the Option and any Common Shares issuable upon exercise of the Option for the benefit of ABV VI, and must exercise the Option solely upon the direction of Abingworth, as a result of which each of ABV VI and Abingworth may be deemed to beneficially own any Common Shares issuable upon exercise of the Option within 60 days of the Filing Date. Thus, as of the Filing Date, for purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended, Abingworth may be deemed to beneficially own 6.6% of the Common Shares deemed issued and outstanding.

The foregoing beneficial ownership percentage is based upon 39,360,634 Common Shares issued and outstanding immediately after the consummation of the Issuer's initial public offering, as reported by the Issuer in its Prospectus (File No. 333-213577) filed with the Securities and Exchange Commission on October 19, 2016 pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended.

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only):

Abingworth Bioventures VI, LP
98-1059389

2. Check the Appropriate Box if a Member of a Group (See Instructions):

(a)
(b)

3. SEC Use Only

4. Source of Funds (See Instructions): WC (See Item 3)

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e):

6. Citizenship or Place of Organization: England

Number of	7. Sole Voting Power:	0
Shares Beneficially	8. Shared Voting Power:	2,604,314*
Owned by	9. Sole Dispositive Power:	0
Each Reporting	10. Shared Dispositive Power:	2,604,314*
Person With		

11. Aggregate Amount Beneficially Owned by Each Reporting Person: 2,604,314*

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions):

13. Percent of Class Represented by Amount in Row (11): 6.6%*

14. Type of Reporting Person (See Instructions): PN

*As of the Filing Date, ABV VI may be deemed to beneficially own an aggregate of 2,604,314 Common Shares of the Issuer. 2,601,814 of the Common Shares reported above are held directly by ABV VI, and 2,500 of the Common Shares reported above are issuable within 60 days of the Filing Date upon exercise of the Option held by Kurt von Emster, a director of the Issuer. Abingworth, as the investment manager of ABV VI, may be deemed to beneficially own the 2,601,814 Common Shares held by ABV VI. Under an agreement between Mr. von Emster and Abingworth, Mr. von Emster is deemed to hold the Option and any Common Shares issuable upon exercise of the Option for the benefit of ABV VI, and must exercise the Option solely upon the direction of Abingworth, as a result of which each of ABV VI and Abingworth may be deemed to beneficially own any Common Shares issuable upon exercise of the Option within 60 days of the Filing Date. Thus, as of the Filing Date, for purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended, ABV VI may be deemed to beneficially own 6.6% of the Common Shares deemed issued and outstanding.

The foregoing beneficial ownership percentage is based upon 39,360,634 Common Shares issued and outstanding immediately after the consummation of the Issuer's initial public offering, as reported by the Issuer in its Prospectus (File No. 333-213577) filed with the Securities and Exchange Commission on October 19, 2016 pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended.

Item 1. Security and Issuer

This Schedule 13D relates to the Common Shares, CHF 0.03 par value per share (“Common Shares”), of CRISPR Therapeutics AG, a corporation organized under the laws of Switzerland (the “Issuer”). The principal executive offices of the Issuer are located at Aeschenvorstadt 36, 4051 Basel, Switzerland.

Item 2. Identity and Background

This statement is being filed on behalf of Abingworth Bioventures VI, LP (“ABV VI”), and Abingworth LLP (“Abingworth” together with ABV VI, the “Reporting Persons”), the investment manager of ABV VI.

Abingworth Bioventures VI GP LP, a Scottish limited partnership, serves as the general partner of ABV VI. Abingworth General Partner VI LLP, an English limited liability partnership (together with Abingworth Bioventures VI GP LP, the “General Partners”), serves as the general partner of Abingworth Bioventures VI GP LP. ABV VI (acting by its general partner Abingworth Bioventures VI GP LP, acting by its general partner Abingworth General Partner VI LLP) has delegated to Abingworth all investment and dispositive power over the securities held by ABV VI. An investment committee of Abingworth, comprised of Stephen W. Bunting, Timothy Haines, Kurt von Emster and Genghis Lloyd-Harris, approves investment and voting decisions by a majority vote, and no individual member has the sole control or voting power over the securities held by ABV VI. Each of Abingworth Bioventures VI GP LP, Abingworth General Partner VI LLP, Mr. von Emster, Dr. Bunting, Dr. Haines and Dr. Lloyd-Harris disclaims beneficial ownership of the Common Shares held by ABV VI, and each of Abingworth Bioventures VI GP LP, Abingworth General Partner VI LLP, Dr. Bunting, Dr. Haines and Dr. Lloyd-Harris disclaims beneficial ownership of the Option (defined below) granted to Mr. von Emster.

The address of the principal business office of each of the Reporting Persons is c/o Abingworth LLP, Princes House, 38 Jermyn Street, London, England SW1Y 6DN.

The principal business of ABV VI is to invest in and assist growth-oriented businesses in the life science and biomedical industries. The principal business of Abingworth is to serve as the investment manager to certain investment funds, including ABV VI.

None of the Reporting Persons, the General Partners or any of their respective executive officers has, during the last five years, been convicted in a criminal proceeding.

None of the Reporting Persons, the General Partners or any of their executive officers has, during the last five years, been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

ABV VI is a limited partnership organized under the laws of England. Abingworth is a limited liability partnership organized under the laws of England.

Item 3. Source and Amount of Funds or Other Consideration

On April 14, 2015, ABV VI purchased 2,354,050 Series A-3 Preferred Shares of the Issuer (the “Series A-3 Preferred Shares”) pursuant to that certain Investment Agreement, dated as of March 9, 2015, by and among the Issuer, ABV VI and the other parties identified therein. ABV VI purchased these Series A-3 Preferred Shares with its investment capital. On May 11, 2015, ABV VI purchased 79,603 Series B Preferred Shares of the Issuer (the “Series B Preferred Shares”) pursuant to that certain Investment Agreement, dated as of April 13, 2016, by and among the Issuer, ABV VI and the other parties identified therein. ABV VI purchased these Series B Preferred Shares with its investment capital. On January 29, 2016 ABV VI converted a USD 1,500,000 convertible promissory note issued on October 25, 2015 into 112,161 additional Series B Preferred Shares. ABV VI used its investment capital for the convertible promissory note. Prior to the consummation of the Issuer’s initial public offering (the “IPO”), Abingworth may have been deemed to beneficially own such 2,354,050 Series A-3 Preferred Shares and 191,764 Series B Preferred Shares, all of which were held by ABV VI. The foregoing amounts of Series A-3 Preferred Shares and Series B Preferred Shares are all presented on a post-split basis, to give effect to a 1 to 3 1/3 share split that occurred in July 2016.

On October 18, 2016, a stock option (the “Option”) was granted to Mr. von Emster, as director’s compensation, with respect to 30,000 Common Shares, with 100% of the shares vesting in 36 equal monthly installments beginning on October 31, 2016. The Stock Option can be exercised at any time as to vested shares, at an exercise price of USD 14.00, until the expiration date of October 18, 2026. Under an agreement between Mr. von Emster and Abingworth, Mr. von Emster is deemed to hold this Option and any Common Shares issuable upon exercise of the Option for the benefit of ABV VI, and must exercise the Option solely upon the direction of Abingworth. As a result, for purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), each of ABV VI and Abingworth may be deemed to beneficially own any Common Shares issuable upon exercise of the Option within 60 days of the Filing Date. Pursuant to its vesting terms, the Option will become exercisable for 2,500 Common Shares within 60 days of the Filing Date. Neither ABV VI nor Abingworth directly owns any of these Common Shares.

Upon the consummation of the IPO, on October 24, 2016, 2,354,050 Series A Preferred Shares and 191,764 Series B Preferred Shares held by ABV VI were converted into 2,545,814 Common Shares of the Issuer on a one-for-one basis. ABV VI also purchased an additional 56,000 Common Shares of the Issuer in the IPO at the public offering price of USD 14.00 per share. An aggregate of 2,601,814 Common Shares were thus issued to ABV VI in connection with the IPO. ABV VI purchased these Common Shares with its investment capital. Abingworth does not directly own any of these Common Shares.

Item 4. Purpose of Transaction

The Reporting Persons acquired the securities reported herein for investment in the ordinary course of business because of their belief that the Issuer represents an attractive investment based on the Issuer’s business prospects and strategy. The Reporting Persons reserve the right to acquire, or cause to be acquired, additional securities of the Issuer, to dispose of, or cause to be disposed of, such securities at any time or to formulate other purposes, plans or proposals regarding the Issuer or any of its securities, to the extent deemed advisable in light of general investment and trading policies of the Reporting Persons, market conditions or other factors.

Currently, Kurt von Emster, Managing Partner of Abingworth, serves on the Board of Directors of the Issuer (the “Board”). Mr. von Emster was appointed to the Board in April, 2015, pursuant to a shareholders’ agreement which terminated in connection with the IPO. Mr. von Emster remains a director of the Issuer following the IPO with a term expiring upon conclusion of the next ordinary shareholders’ meeting. Mr. von Emster may be re-elected upon expiration of this term. Mr. von Emster also serves on the Audit Committee of the Board.

Except as set forth herein, the Reporting Persons do not have any plan or proposal that would relate to, or result in, any of the matters set forth under subsections (a) through (j) of Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer

As of the Filing Date, Abingworth may be deemed to beneficially own an aggregate of 2,604,314 Common Shares. 2,601,814 of such Common Shares are held by ABV VI, and 2,500 of such Common Shares are issuable upon exercise of the Option held by Mr. von Emster within 60 days of the Filing Date.

Abingworth, as the investment manager of ABV VI, may be deemed to beneficially own the 2,601,814 Common Shares held by ABV VI. Under an agreement between Mr. von Emster and Abingworth, Mr. von Emster is deemed to hold the Option and any Common Shares issuable upon exercise of the Option for the benefit of ABV VI, and must exercise the Option solely upon the direction of Abingworth. As a result, each of ABV VI and Abingworth may be deemed to beneficially own any Common Shares issuable upon exercise of the Option within 60 days of the Filing Date. Thus, as of the Filing Date, for purposes of Rule 13d-3 under the Exchange Act, Abingworth may be deemed to beneficially own 6.6% of the Common Shares deemed issued and outstanding.

Upon the consummation of the IPO, 2,354,050 Series A-3 Preferred Shares and 191,764 Series B Preferred Shares held by ABV VI were exchanged for 2,545,814 Common Shares of the Issuer on a one-for-one basis, and ABV VI purchased an additional 56,000 Common Shares of the Issuer in the IPO at the public offering price of USD 14.00 per share. Except as described herein, during the past sixty (60) days on or prior to October 24, 2016 (the “Event Date”), and from the Event Date to the Filing Date, there were no other purchases or sales of Common Shares, or securities convertible into or exchangeable for Common Shares, by the Reporting Persons or any person or entity for which the Reporting Persons possess voting or dispositive control over the securities thereof.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer

The executive officers and directors of the Issuer (including Mr. von Emster) and certain other shareholders of the Issuer (including ABV VI) entered into lock-up agreements (each, a “Lock-Up Agreement”), a form of which is incorporated as Exhibit 2 hereto, with Citigroup Global Markets Inc. and Piper Jaffray & Co. (in their capacity as representatives of the several Underwriters for the IPO, the “Representatives”). Pursuant to the Lock-Up Agreements, Mr. von Emster and ABV VI each agreed, for a period of 180 days following the date of the underwriting agreement with the Representatives relating to the IPO, subject to certain specified exceptions, not to dispose of or hedge any Common Shares or any securities convertible into or exchangeable for Common Shares. The Representatives, in their sole discretion, may release any of the securities subject to the Lock-Up Agreements at any time. This description of the Lock-Up Agreements is qualified in its entirety by reference to the terms thereof, which are incorporated by reference herein.

Except as otherwise set forth in this Schedule 13D, there are no contracts, arrangements, understandings or similar relationships existing with respect to the securities of the Issuer and any of the Reporting Persons.

Item 7. Material to be Filed as Exhibits

The following exhibit is incorporated into this Schedule 13D:

- | | |
|-----------|--|
| Exhibit 1 | Joint Filing Agreement, dated November 3, 2016, signed by each of the Reporting Persons in order to confirm that this Schedule 13D (and any amendments hereto) are being filed on behalf of each of the Reporting Persons. |
| Exhibit 2 | Form of Lock-Up Agreement (incorporated by reference to Exhibit B to Exhibit 1.1 of the Form S-1/A filed by the Issuer with the Securities and Exchange Commission on October 7, 2016). |

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: November 3, 2016

ABINGWORTH BIOVENTURES VI, LP

By: Abingworth LLP, its Manager

By: /s/ John Heard
Name: John Heard
Title: Authorized Signatory

ABINGWORTH, LLP

By: /s/ John Heard
Name: John Heard
Title: Authorized Signatory

**Attention: Intentional misstatements or omissions of fact constitute
Federal criminal violations (See 18 U.S.C. 1001).**

JOINT FILING AGREEMENT

This Agreement will confirm the agreement by and among the undersigned that the Schedule 13D filed with the Securities and Exchange Commission on the date hereof with respect to the beneficial ownership by the undersigned of the Common Shares, CHF 0.03 par value per share, of CRISPR Therapeutics AG is being filed, and all amendments thereto will be filed, on behalf of each of the persons and entities named below, in accordance with Rule 13d-1 under the Securities Exchange Act of 1934, as amended. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Dated: November 3, 2016

ABINGWORTH BIOVENTURES VI, LP

By: Abingworth LLP, its Manager

By: /s/ John Heard
Name: John Heard
Title: Authorized Signatory

ABINGWORTH, LLP

By: /s/ John Heard
Name: John Heard
Title: Authorized Signatory