

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

SCHEDULE 13D

Under the Securities Exchange Act of 1934

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CRISPR THERAPEUTICS AG

(Name of Issuer)

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Common Shares, Par Value CHF 0.03

(Title of Class of Securities)

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H17182108

(CUSIP Number)

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Victoria A. Whyte

GlaxoSmithKline plc

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980 Great West Road

Brentford, Middlesex TW8 9GS

England

Telephone: +44 (0)208 047 5000

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

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October 18, 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.

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 1. NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)
 

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GlaxoSmithKline plc

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 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
 

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(see instructions)

(a) (b) 


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 3. SEC USE ONLY
 

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 4. SOURCE OF FUNDS (see instructions)
 

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WC

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 5. CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) 


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 6. CITIZENSHIP OR PLACE OF ORGANIZATION
 

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England and Wales

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 7. SOLE VOTING POWER
 

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3,250,627

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 NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH
 8. SHARED VOTING POWER
 

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-0-

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 9. SOLE DISPOSITIVE POWER
 

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3,250,627

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 10. SHARED DISPOSITIVE POWER
 

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-0-

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 11. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
 

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3,250,627 (1)

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 12. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES
 

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(see instructions) 


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 13. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)
 

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8.3% (2)

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 14. TYPE OF REPORTING PERSON (see instructions)
 

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 Footnotes:
 

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(1) Common Shares (as defined below) are held of record by S.R. One, Limited ("S.R. One"), an indirect, wholly-owned subsidiary of GlaxoSmithKline plc.

(2) Based upon 39,390,634 Common Shares outstanding, which includes 39,360,634 Common Shares outstanding immediately after the Issuer's initial public offering (the "IPO") and the concurrent private placement, as reported in the Issuer's prospectus (Form 424B4) filed with the Securities and Exchange Commission (the "SEC") on October 19, 2016, and 30,000 Common Shares deliverable pursuant to the Stock Option (as defined below).

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**Item 1. Security and Issuer.**

This statement on Schedule 13D (this “Statement”) relates to the common shares, par value CHF 0.03 per share (the “Common Shares”), of CRISPR Therapeutics AG, a stock corporation (*Aktiengesellschaft*) organized under the laws of Switzerland (the “Issuer”). The Issuer’s principal executive offices are located at Aeschenvorstadt 36, 4051 Basel, Switzerland.

**Item 2. Identity and Background.**

This Statement is being filed on behalf of GlaxoSmithKline plc, a public limited company incorporated under the laws of England and Wales. GlaxoSmithKline plc and its subsidiaries constitute a major global healthcare group engaged in the creation, discovery, development, manufacture and marketing of pharmaceutical and consumer health-related products with its principal offices located at 980 Great West Road, Brentford, Middlesex TW8 9GS, England. Set forth in Schedule 1 to this Statement are the name, business address and present principal occupation or employment and citizenship of each executive officer and director of GlaxoSmithKline plc. The Common Shares which are the subject of this Statement are held of record by S.R. One.

During the last five years prior to the date hereof, neither GlaxoSmithKline plc nor, to the best knowledge of GlaxoSmithKline plc, any of the other persons with respect to whom information is given in response to this Item 2 has been convicted in a criminal proceeding or been a party to a civil proceeding ending in 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.

**Item 3. Source or Amount of Funds or Other Consideration.**

S.R. One acquired 66,500 Common Shares on October 24, 2016 in the IPO. The total consideration paid by S.R. One for such shares was \$931,000, and the consideration was obtained from the working capital of S.R. One. S.R. One also acquired 3,154,127 Common Shares on October 24, 2016 upon automatic conversion, on a one-for-one basis, of (i) 2,942,560 Series A-3 Preferred Shares of the Issuer (the “Series A-3 Preferred”) owned by S.R. One into 2,942,560 Common Shares, and (ii) 211,567 Series B Preferred Shares of the Issuer (the “Series B Preferred”) owned by S.R. One into 211,567 Common Shares. The consideration for each of the Series A-3 Preferred and the Series B Preferred was obtained from the working capital of S.R. One. A stock option (the “Stock Option”) was granted to Simeon J. George as director’s compensation on October 18, 2016 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 \$14.00, until the expiration date of October 18, 2026. As a Vice President at S.R. One and an employee of GlaxoSmithKline LLC, an indirect, wholly-owned subsidiary of GlaxoSmithKline plc, Simeon J. George is obligated to transfer any shares issued under the Stock Option to S.R. One.

**Item 4. Purpose of Transaction.****A. Board Member**

S.R. One appointed Simeon J. George, M.D., a Vice President at S.R. One and an employee of GlaxoSmithKline LLC, an indirect, wholly-owned subsidiary of GlaxoSmithKline plc, to the board of directors of the Issuer in April 2015 pursuant to the Shareholders’ Agreement, described in Item 4.B, which terminated in connection with the IPO. Simeon J. George will hold office until his successor has been elected and qualified or until the earlier of his resignation or removal.

**B. Shareholders’ Agreement**

On April 13, 2015, the Issuer, S.R. One and certain other investors entered into the Shareholders’ Agreement (as amended, the “Shareholders’ Agreement”). The Shareholders’ Agreement granted S.R. One certain rights (including registration rights and certain board nomination rights). The Shareholders’ Agreement terminated in connection with the IPO.

**C. Series A-3 Investment Agreement**

On March 9, 2015, the Issuer, S.R. One and certain other investors entered into a Series A-3 Investment Agreement (the “Series A-3 Investment Agreement”), pursuant to which S.R. One acquired an aggregate of 882,768 shares of Series A-3 Preferred. Pursuant to the amendment of the Issuer’s articles of association (the “Articles of Association Amendment”) that became effective upon registration in the Switzerland commercial register on July 27, 2016 and publication in the Swiss Official Gazette of Commerce on August 2, 2016, a 3 1/3 share split was effected with respect to all of the shares of Series A-

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3 Preferred acquired pursuant to the Series A-3 Investment Agreement. All of the shares of Series A-3 Preferred owned by S.R. One were automatically converted to Common Shares pursuant to the transactions described in Item 3 above.

D. Series B Investment Agreement and the Convertible Loan Agreement

On April 13, 2015, the Issuer, S.R. One and certain other investors entered into a Series B Investment Agreement (“Series B Investment Agreement”), pursuant to which S.R. One acquired an aggregate of 29,852 shares of Series B Preferred. On December 7, 2015, S.R. One participated on a pro-rata basis to its shareholding as a lender in the principal amount of \$1,500,000 under the Convertible Loan Agreement between the Issuer and Bayer Global Investments B.V. (the “Convertible Loan Agreement”). On January 29, 2016, the outstanding principal balance together with accrued interest thereon under the Convertible Loan Agreement was automatically converted into Series B Preferred (the “Conversion”), pursuant to which S.R. One acquired an aggregate of 33,618 Series B Preferred. Pursuant to the Articles of Association Amendment, a 3 1/3 share split was effected with respect to all of the shares of Series B Preferred acquired pursuant to the Series B Investment Agreement and the Conversion. All of the shares of Series B Preferred owned by S.R. One were automatically converted into Common Shares pursuant to the transactions described in Item 3 above.

E. Lock Up Agreement

The executive officers and directors of the Issuer, S.R. One and certain other shareholders of the Issuer entered into lock-up agreements (each, a “Lock-Up Agreement”), a form of which is attached as Exhibit 1 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 its Lock-Up Agreement, S.R. One has agreed that for a period of 180 days following the date of the underwriting agreement with the Representatives related to the IPO, subject to specified exceptions, it will not, without the prior written consent of the Representatives, offer, sell, contract to sell, pledge, or otherwise dispose of (or enter into any transaction or device that is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by S.R. One or any of its affiliates or any person in privity with S.R. One or its affiliates), directly or indirectly, including the filing (or participation in the filing) of a registration statement with the SEC in respect of, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended, and the rules and regulations of the SEC promulgated thereunder with respect to, any shares of capital stock of the Issuer or any securities convertible into or exercisable or exchangeable for such capital stock, or publicly announce an intention to effect any such transaction.

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**F. General**

Other than as described above, GlaxoSmithKline plc has no plans or proposals that would result in:

- a. the acquisition by any person of additional securities of the Issuer, or the disposition of securities of the Issuer;
- b. an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries;
- c. a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries;
- d. any change in the present board of directors or management of the Issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board;
- e. any material change in the present capitalization or dividend policy of the Issuer;
- f. any other material change in the Issuer's business or corporate structure including but not limited to, if the Issuer is a registered closed-end investment company, any plans or proposals to make any changes in its investment policy for which a vote is required by Section 13 of the Investment Company Act of 1940;
- g. changes in the Issuer's charter, bylaws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Issuer by any person;
- h. causing a class of securities of the Issuer to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association;
- i. a class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Act; or
- j. any action similar to any of those enumerated above.

GlaxoSmithKline plc expects to review from time to time its investment in the Issuer and may, depending on the Issuer's business, assets, operations, financial condition, prospects and other factors, as well as (and subject to) the terms of the contracts described in Item 6 of this Schedule: (i) purchase additional Common Shares, options or other securities of the Issuer in the open market, in privately negotiated transactions or otherwise; (ii) sell all or a portion of the Common Shares, options or other securities now beneficially owned or hereafter acquired by it; (iii) propose one or more directors for the Issuer's board of directors; (iv) engage in discussions, negotiations or enter into other transactions with a view to obtaining direct or indirect control of the Issuer; (v) acquire assets of the Issuer and its subsidiaries; and (vii) engage in such other proposals as GlaxoSmithKline plc may deem appropriate under the circumstances, including plans or proposals which may relate to, or could result in, any of the matters referred to in clauses (a) through (j), above.

Also, consistent with its investment intent, GlaxoSmithKline plc may engage in communications with, without limitation, one or more shareholders of the Issuer, one or more officers of the Issuer and/or one or more members of the board of directors of the Issuer regarding the Issuer, including but not limited to its operations, governance and control.

**Item 5. Interest in Securities of the Issuer.**

- a. GlaxoSmithKline plc beneficially owns 3,250,627 Common Shares, which represents 8.3% of the 39,390,634 Common Shares outstanding, which includes 39,360,634 Common Shares of the Issuer outstanding immediately after the Issuer's IPO and the concurrent private placement, as reported in the Issuer's prospectus (Form 424B4) filed with the SEC on October 19, 2016 and 30,000 Common Shares deliverable pursuant to the Stock Option. The 3,250,627 Common Shares GlaxoSmithKline plc beneficially owns includes 30,000 Common Shares deliverable upon the exercise of the Stock Option that can be exercised at any time as to vested shares, at an exercise price of \$14.00, until the expiration date of October 18, 2026.
  - b. Subject to the limitations described in Item 4 above, GlaxoSmithKline plc has the sole power to vote or direct the vote, and the sole power to dispose or to direct the disposition of all 3,250,627 Common Shares (assuming the Stock Option is fully exercised) described in Item 5a above.
  - c. Except as described herein, no transaction in Common Shares was effected during the past 60 days by GlaxoSmithKline plc.
  - d. No person, other than GlaxoSmithKline plc, is known to have the right to receive or the power to direct the receipt of dividends from, or any proceeds from the sale of, the Common Shares beneficially owned by GlaxoSmithKline plc.
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e. Not applicable.

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

Except as disclosed in Item 4 of this Statement, there are no contracts, arrangements, understandings or relationships (legal or otherwise) between GlaxoSmithKline plc or S.R. One and any other person with respect to any securities of the Issuer.

**Item 7. Material to Be Filed as Exhibits.**

Descriptions of documents set forth on this Schedule are qualified in their entirety by reference to the exhibits listed in this Item 7.

Exhibit	Name
1	Form of Lock-Up Agreement (previously filed with the SEC as Exhibit B to Exhibit 1.1 to Form S-1/A filed by the Issuer on October 7, 2016).

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**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: October 28, 2016

GLAXOSMITHKLINE PLC

By: /s/ Victoria A. Whyte

Name: Victoria A. Whyte

Title: Authorized Signatory

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## ANNEX A

<u>Name</u>	<u>Business Address</u>	<u>Principal Occupation or Employment</u>	<u>Citizenship</u>
<b>Board of Directors</b>			
Sir Andrew Witty	980 Great West Road Brentford Middlesex, England TW8 9GS	Executive Director and Chief Executive Officer	British
Professor Sir Roy Anderson	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	British
Manvinder Singh Banga	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	Indian
Stacey Cartwright	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	British
Dr. Vivienne Cox	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	British
Simon Dingemans	980 Great West Road Brentford Middlesex, England TW8 9GS	Executive Director and Chief Financial Officer	British
Lynn Elsenhans	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	US
Dr. Jesse Goodman	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	US
Sir Philip Hampton	980 Great West Road Brentford Middlesex, England TW8 9GS	Chairman and Company Director	British
Judy Lewent	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	US

Urs Rohner	980 Great West Road Brentford Middlesex, England TW8 9GS	Company Director	Swiss
Dr. Moncef Slaoui	709 Swedeland Road King of Prussia PA, 19406	Executive Director and Chairman, Global Vaccines	Moroccan, Belgian & US

**Corporate  
Executive Team**

Sir Andrew Witty	980 Great West Road Brentford Middlesex, England TW8 9GS	Executive Director and Chief Executive Officer	British
Roger Connor	980 Great West Road Brentford Middlesex, England TW8 9GS	President, Global Manufacturing & Supply	Irish
Luc Debruyne	980 Great West Road Brentford Middlesex, England TW8 9GS	President, Global Vaccines	Belgian
Simon Dingemans	980 Great West Road Brentford Middlesex, England TW8 9GS	Executive Director and Chief Financial Officer	British
Nick Hirons	980 Great West Road Brentford Middlesex, England TW8 9GS	Senior Vice President, Global Ethics and Compliance	British & US
Abbas Hussain	980 Great West Road Brentford Middlesex, England TW8 9GS	President, Global Pharmaceuticals	British
Brian McNamara	184 Liberty Corner Road Warren NJ, 07059	Chief Executive Officer, GSK Consumer Healthcare	US
David Redfern	980 Great West Road Brentford Middlesex, England TW8 9GS	Chief Strategy Officer	British
Dr. Moncef Slaoui	709 Swedeland Road King of Prussia PA, 19406	Executive Director and Chairman Global Vaccines	Moroccan, Belgian & US

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Claire Thomas	980 Great West Road Brentford Middlesex, England TW8 9GS	Senior Vice President, Human Resources	British
Philip Thomson	980 Great West Road Brentford Middlesex, England TW8 9GS	Senior Vice President, Global Communications and Government Affairs	British
Daniel Troy	The Navy Yard 5 Crescent Drive Philadelphia, PA 19112	Senior Vice President & General Counsel	US
Dr. Patrick Vallance	980 Great West Road Brentford Middlesex, England TW8 9GS	President, Pharmaceuticals R&D	British
Emma Walmsley	980 Great West Road Brentford Middlesex, England TW8 9GS	Chief Executive Officer Designate	British