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

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No.)*

Achilles Therapeutics plc
(Name of Issuer)

American Depositary Shares and Ordinary Shares, nominal value £0.001 per share
(Title of Class of Securities)

00449L102 **
(CUSIP Number)

December 31, 2021
(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*).

** There is no CUSIP number assigned to the ordinary shares. CUSIP number 00449L102 has been assigned to the American Depositary Shares of the Issuer, which are quoted on the Nasdaq Global Select Market under the symbol "ACHL." Each American Depositary Share represents the right to receive one ordinary share.

SCHEDULE 13G/A

CUSIP No. 00449L102

1	Names of Reporting Person: Syncona Portfolio Limited		
2	Check the appropriate box if a member of a Group (see instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC Use Only		
4	Citizenship or Place of Organization Guernsey		
Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power	0
	6	Shared Voting Power	11,086,909 (1)
	7	Sole Dispositive Power	0
	8	Shared Dispositive Power	11,086,909 (1)
9	Aggregate Amount Beneficially Owned by Each Reporting Person 11,086,909 (1)		
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)		
11	Percent of class represented by amount in row (9) 27.3% (2)		
12	Type of Reporting Person (See Instructions) CO		

- (1) Consists of 11,086,909 American Depositary Shares (“ADSs”) held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer. The ordinary shares and the ADSs are collectively referred to as the “Ordinary Shares”.
- (2) Based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer’s report on Form 6-K filed with the Securities and Exchange Commission (the “SEC”) on November 9, 2021.

SCHEDULE 13G

CUSIP No. 00449L102

1	Names of Reporting Person: Syncona Holdings Limited		
2	Check the appropriate box if a member of a Group (see instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC Use Only		
4	Citizenship or Place of Organization Guernsey		
Number of Shares Beneficially Owned by Each Reporting Person With:		5	Sole Voting Power 0
		6	Shared Voting Power 11,086,909 (1)
		7	Sole Dispositive Power 0
		8	Shared Dispositive Power 11,086,909 (1)
9	Aggregate Amount Beneficially Owned by Each Reporting Person 11,086,909 (1)		
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)		
11	Percent of class represented by amount in row (9) 27.3% (2)		
12	Type of Reporting Person (See Instructions) CO		

- (1) Consists of 11,086,909 ADSs held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer.
- (2) Based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer's report on Form 6-K filed with the SEC on November 9, 2021.

SCHEDULE 13G

CUSIP No. 00449L102

1	Names of Reporting Person: Syncona Investment Management Limited		
2	Check the appropriate box if a member of a Group (see instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC Use Only		
4	Citizenship or Place of Organization United Kingdom		
Number of Shares Beneficially Owned by Each Reporting Person With:		5	Sole Voting Power 0
		6	Shared Voting Power 11,086,909 (1)
		7	Sole Dispositive Power 0
		8	Shared Dispositive Power 11,086,909 (1)
9	Aggregate Amount Beneficially Owned by Each Reporting Person 11,086,909 (1)		
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)		
11	Percent of class represented by amount in row (9) 27.3% (2)		
12	Type of Reporting Person (See Instructions) CO		

- (1) Consists of 11,086,909 ADSs held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer.
- (2) Based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer's report on Form 6-K filed with the SEC on November 9, 2021.

SCHEDULE 13G

CUSIP No. 00449L102

1	Names of Reporting Person: Syncona Limited		
2	Check the appropriate box if a member of a Group (see instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC Use Only		
4	Citizenship or Place of Organization Guernsey		
Number of Shares Beneficially Owned by Each Reporting Person With:		5	Sole Voting Power 0
		6	Shared Voting Power 11,086,909 (1)
		7	Sole Dispositive Power 0
		8	Shared Dispositive Power 11,086,909 (1)
9	Aggregate Amount Beneficially Owned by Each Reporting Person 11,086,909 (1)		
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)		
11	Percent of class represented by amount in row (9) 27.3% (2)		
12	Type of Reporting Person (See Instructions) CO		

- (1) Consists of 11,086,909 ADSs held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer.
- (2) Based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer's report on Form 6-K filed with the SEC on November 9, 2021.

SCHEDULE 13G

CUSIP No. 00449L102

1	Names of Reporting Person: Martin Murphy		
2	Check the appropriate box if a member of a Group (see instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>		
3	SEC Use Only		
4	Citizenship or Place of Organization United Kingdom		
Number of Shares Beneficially Owned by Each Reporting Person With:		5	Sole Voting Power 0
		6	Shared Voting Power 11,086,909 (1)
		7	Sole Dispositive Power 0
		8	Shared Dispositive Power 11,086,909 (1)
9	Aggregate Amount Beneficially Owned by Each Reporting Person 11,086,909 (1)		
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)		
11	Percent of class represented by amount in row (9) 27.3% (2)		
12	Type of Reporting Person (See Instructions) IN		

- (1) Consists of 11,086,909 ADSs held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer.
- (2) Based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer's report on Form 6-K filed with the SEC on November 9, 2021.

SCHEDULE 13G

CUSIP No. 00449L102

1	Names of Reporting Person: Chris Hollowood	
2	Check the appropriate box if a member of a Group (see instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC Use Only	
4	Citizenship or Place of Organization United Kingdom	
Number of Shares Beneficially Owned by Each Reporting Person With:	5	Sole Voting Power 0
	6	Shared Voting Power 11,086,909 (1)
	7	Sole Dispositive Power 0
	8	Shared Dispositive Power 11,086,909 (1)
9	Aggregate Amount Beneficially Owned by Each Reporting Person 11,086,909 (1)	
10	Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)	
11	Percent of class represented by amount in row (9) 27.3% (2)	
12	Type of Reporting Person (See Instructions) IN	

- (1) Consists of 11,086,909 ADSs held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer.
- (2) Based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer's report on Form 6-K filed with the SEC on November 9, 2021.

Item 1.

- (a) **Name of Issuer:** Achilles Therapeutics plc
- (b) **Address of Issuer's principal executive offices:** 245 Hammersmith Road, London W6 8PW, United Kingdom

Item 2.

(a) **Name of reporting persons filing:**

- (i) Syncona Portfolio Limited;
- (ii) Syncona Holdings Limited;
- (iii) Syncona Investment Management Limited;
- (iv) Syncona Limited;
- (v) Martin Murphy; and
- (vi) Chris Hollowood

(b) **Address of principal business office or, if none, residence:**

The address of the principal business office of Syncona Portfolio Limited, Syncona Holdings Limited and Syncona Limited is Arnold House, St Julian's Avenue, St Peter Port, Guernsey GY1 3RD, Channel Islands. The address of the principal business office of Syncona Investment Management Limited, Martin Murphy and Chris Hollowood is 2nd Floor, 8 Bloomsbury Street, London WC1B 3SR, United Kingdom.

(c) **Citizenship:**

Syncona Portfolio Limited, Syncona Holdings Limited and Syncona Limited's citizenship is Guernsey. Syncona Investment Management Limited, Martin Murphy and Chris Hollowood's citizenship is United Kingdom.

(d) **Title and class of securities:**

Ordinary Shares, nominal value £0.001 per share, and American Depositary Shares ("ADS"). Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer.

(e) **CUSIP No.:**

There is no CUSIP number assigned to the ordinary shares. CUSIP number 00449L102 has been assigned to the ADS, which are quoted on the Nasdaq Global Select Market under the symbol "ACHL."

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 following information with respect to the ownership of Ordinary Shares of the Issuer by the Reporting Persons filing this statement on Schedule 13G/A is provided as of December 31, 2021:

Reporting Persons	Ordinary Shares Held Directly (1)	Sole Power to Vote or Direct the Vote (1)	Shared Power to Vote or Direct the Vote (1)	Sole Power to Dispose or Direct the Disposition (1)	Shared Power to Dispose or Direct the Disposition (1)	Amount Beneficially Owned (1)	Percentage of Class (2)
Syncona Portfolio Limited	11,086,909	0	11,086,909	0	11,086,909	11,086,909	27.3%
Syncona Holdings Limited	0	0	11,086,909	0	11,086,909	11,086,909	27.3%
Syncona Investment Management Limited	0	0	11,086,909	0	11,086,909	11,086,909	27.3%
Syncona Limited	0	0	11,086,909	0	11,086,909	11,086,909	27.3%
Martin Murphy	0	0	11,086,909	0	11,086,909	11,086,909	27.3%
Chris Hollowood	0	0	11,086,909	0	11,086,909	11,086,909	27.3%

- (1) Consists of 11,086,909 ADSs held directly by Syncona Portfolio Limited. Each ADS represents one ordinary share, nominal value £0.001 per share, of the Issuer. The ordinary shares and the ADS are collectively referred to as the “Ordinary Shares”.
- (2) The percentage of outstanding Ordinary Shares of the Issuer beneficially owned was calculated based on 40,603,489 Ordinary Shares outstanding as of September 30, 2021 as reported in the Issuer’s report on Form 6-K filed with the SEC on November 9, 2021.

The shares are owned directly by Syncona Portfolio Limited (“Syncona Portfolio”) and indirectly by Syncona Holdings Limited (“Syncona Holdings”), Syncona Limited (“Syncona Limited”), Martin Murphy and Chris Hollowood. Syncona Portfolio is a wholly owned subsidiary of Syncona Holdings, and Syncona Holdings is a wholly controlled subsidiary of Syncona Limited, a publicly-listed company. Investment and voting decisions with respect to these shares are made by Syncona Portfolio, acting upon the recommendation of Martin Murphy and Chris Hollowood, who comprise the investment committee of Syncona Investment Management Limited, also a subsidiary of Syncona Holdings. Each of these entities disclaims beneficial ownership except to the extent of its pecuniary interest therein, if any.

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 five 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.

Not applicable.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certifications.

Not applicable.

AGREEMENT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, the persons named below agree to the joint filing on behalf of each of them of a statement on Schedule 13G (including amendments thereto) with respect to the Ordinary Shares (represented by ADS, each of which represents one Ordinary Share) of Autolus Therapeutics plc and further agree that this Joint Filing Agreement be included as an Exhibit to such joint filings. It is understood and agreed that the joint filing of the Schedule 13G shall not be construed as an admission that the persons named herein constitute a group for purposes of Regulation 13D-G of the Securities Exchange Act of 1934, as amended.

Dated: February 11, 2022

SYNCONA PORTFOLIO LIMITED

By: /s/ Rob Hutchinson

Name: Rob Hutchinson

Title: Director

SYNCONA HOLDINGS LIMITED

By: /s/ Rob Hutchinson

Name: Rob Hutchinson

Title: Director

SYNCONA INVESTMENT MANAGEMENT LIMITED

By: /s/ Martin Murphy

Name: Martin Murphy

Title: CEO

SYNCONA LIMITED

By: /s/ Rob Hutchinson

Name: Rob Hutchinson

Title: Director

/s/ Martin Murphy

Martin Murphy

/s/ Chris Hollowood

Chris Hollowood