

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

SCHEDULE 13D
Under the Securities Exchange Act of 1934
(Amendment No.)*

ASSEMBLY BIOSCIENCES, INC.

(Name of Issuer)

Common Stock, par value \$0.001

(Title of Class of Securities)

0453961080

(CUSIP Number)

Gilead Sciences, Inc.
333 Lakeside Drive
Foster City, California 94404
650-574-3000

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

October 16, 2023

(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(b) 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).

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1	NAME OF REPORTING PERSONS	Gilead Sciences, Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions)	(a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY		
4	SOURCE OF FUNDS (See Instructions)	WC	
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(D) OR 2(E)	<input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION	Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER	13,073,668
	8	SHARED VOTING POWER	0
	9	SOLE DISPOSITIVE POWER	13,073,668
	10	SHARED DISPOSITIVE POWER	

	0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 13,073,668
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) []
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 19.9% (1)
14	TYPE OF REPORTING PERSON (See Instructions) CO

(1) Based upon 65,709,112 shares of common stock of the Issuer issued and outstanding, which 65,709,112 shares is equal to the sum of (i) 52,635,444 shares of common stock of the Issuer issued and outstanding as of October 13, 2023, as represented by the Issuer to Gilead Sciences, Inc. in the Common Stock Purchase Agreement, dated October 15, 2023, between the Issuer and Gilead Sciences, Inc., plus (ii) 13,073,668 shares of common stock issued by the Issuer to Gilead Sciences, Inc. on October 16, 2023 pursuant to the Common Stock Purchase Agreement, dated October 15, 2023, between the Issuer and Gilead Sciences, Inc..

Item 1. Security and Issuer

This Schedule 13D (the “Schedule 13D”) relates to the common stock, par value \$0.001 per share (the “Common Stock”), of Assembly Biosciences, Inc., a Delaware corporation (the “Issuer”). The Issuer’s principal executive offices are located at 331 Oyster Point Blvd., Fourth Floor, South San Francisco, California 94080.

Item 2. Identity and Background

(a) This Schedule 13D is being filed by Gilead Sciences, Inc., a Delaware corporation (“Gilead” or the “Reporting Person”).

(b) The principal business address of the Reporting Person is 333 Lakeside Drive, Foster City, California 94404.

(c) The principal business of the Reporting Person is to develop and commercialize innovative medicines in areas of unmet medical need and engage in any other activity or business lawfully carried on by a corporation organized under the laws of the State of Delaware.

The directors and executive officers of the Reporting Person are set forth on Schedule I, attached hereto. Schedule I sets forth the following information with respect to each such person:

(i) name;

(ii) business address;

(iii) position with the Reporting Person and present principal occupation or employment and, for persons not employed by the Reporting Person, the name, principal business and address of any corporation or other organization in which such employment is conducted; and

(iv) citizenship.

(d) — (e) During the last five years, neither the Reporting Person nor any person named in Schedule I has been (i) convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) 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.

(f) The jurisdiction of organization of the Reporting Person is set forth in subsection (a) above. The citizenship of each of the individuals referred to in Schedule I is set forth on Schedule I.

Item 3. Source and Amount of Funds or Other Consideration

On October 15, 2023, Gilead entered into the Purchase Agreement (as defined below), pursuant to which Gilead agreed to purchase an initial 13,073,668 shares of the Issuer’s Common Stock (the “Initial Purchase”) at a purchase price of \$1.16 per share (the “Initial Purchase Price”), which purchase occurred on October 16, 2023. The total consideration for the Initial Purchase was \$15.2 million, and such consideration was obtained from the available cash resources of Gilead.

Item 4. Purpose of Transaction

On October 15, 2023, Gilead and the Issuer entered into an Option, License and Collaboration Agreement (the “Collaboration Agreement”) pursuant to which Gilead (1) exclusively licensed to the Issuer its helicase primase inhibitor program and non-nucleoside polymerase inhibitor (NNPI) program, while retaining opt-in rights to these programs and (2) has an option to take an exclusive license, on a program-by-program basis, to all of the Issuer’s other current and future pipeline programs.

In addition to the Collaboration Agreement, Gilead and the Issuer entered into a Common Stock Purchase Agreement (the “Purchase Agreement”) and an Investor Rights Agreement (the “Investor Rights Agreement”) and, together with the Purchase Agreement, the “Equity Agreements”), pursuant to which Gilead made the Initial Purchase. If the Issuer completes an equity financing (or series of financings) by July 15, 2024 that results in at least \$30 million of proceeds to the Issuer, then, subject to approval by the Issuer’s stockholders, the Issuer may require Gilead to purchase additional shares of Common Stock from the Issuer in an amount that results

in Gilead owning 29.9% of the Issuer's then-outstanding voting capital stock. If the Issuer does not complete the equity financing or does not provide notice to Gilead that it is requiring Gilead to purchase such additional shares, Gilead may elect to purchase additional shares of Common Stock from the Issuer in an amount that results in Gilead owning 29.9% of the Issuer's then-outstanding voting capital stock, subject to Issuer stockholder approval. The purchase price per share for additional shares purchased by Gilead will be equal to the lesser of (1) a 35% premium to the 30-day volume weighted average price immediately prior to the date of purchase or (2) a 35% premium to the 30-day volume weighted average price immediately prior to delivery by Gilead of notice of the anticipated closing date for the additional share purchase. The Equity Agreements also include standstill and lockup provisions, with customary exceptions, and provide Gilead with certain other stock purchase rights and registration rights, as well as the right to designate two directors (or, alternatively, board observers, at Gilead's election) to the Issuer's Board of Directors.

The acquisitions by the Reporting Person of the Issuer's securities as described herein were effected in connection with entry into the Collaboration Agreement and the Equity Agreements, and because of the belief that the securities of the Issuer represent an attractive investment. The foregoing description of the Equity Agreements is not complete and is subject to and qualified in its entirety by reference to the full text of such agreements, which are attached as Exhibits 99.1 and 99.2 hereto and incorporated herein by reference.

Except as otherwise described herein, the Reporting Person currently has no plan(s) or proposal(s) that relate to, or would result in, any of the events or transactions described in Item 4(a) through (j) of Schedule 13D, although the Reporting Person reserves the right, at any time and from time to time, to review or reconsider such position and/or change such purpose and/or formulate plans or proposals with respect thereto.

The Reporting Person intends to review from time to time its investment in the Issuer and the Issuer's business affairs, financial position, performance and other investments considerations. The Reporting Person may from time to time engage in discussions with the Issuer, its directors and officers, other stockholders of the Issuer and other persons on matters that relate to the management, operations, business, assets, capitalization, financial condition, strategic plans, governance and the future of the Issuer and/or its subsidiaries. Based upon such review and discussions, as well as general economic, market and industry conditions and prospectus and the Reporting Person's liquidity requirements and investment considerations, and subject to the limitations in the agreements described above, the Reporting Person may consider additional courses of action, which may include, in the future, formulating plans or proposals regarding the Issuer and/or its subsidiaries, including possible future plans or proposals concerning events or transactions of the kind described in Item 4(a) through (j) of Schedule 13D.

Item 5. Interest in Securities of the Issuer

(a)-(b)

Number of shares of Common Stock beneficially owned:

Gilead	13,073,668 shares
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Percent of class:

Gilead	19.9%
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The percentage ownership was calculated based upon 65,709,112 shares of common stock of the Issuer issued and outstanding, which 65,709,112 shares is equal to the sum of (i) 52,635,444 shares of common stock of the Issuer issued and outstanding as of October 13, 2023, as represented by the Issuer to Gilead in the Purchase Agreement, plus (ii) 13,073,668 shares of common stock issued by the Issuer to Gilead on October 16, 2023 pursuant to the Purchase Agreement.

Number of shares as to which such person has:

(i) Sole power to vote or to direct the vote:

Gilead	13,073,668 shares
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(ii) Shared power to vote or to direct the vote:

Gilead	0 shares
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(iii) Sole power to dispose or to direct the disposition of:

Gilead	13,073,668 shares
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(iv) Shared power to dispose or to direct the disposition of:

Gilead	0 shares
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To the best knowledge of the Reporting Person, none of the individuals listed on Schedule I beneficially owns any of the Issuer's Common Stock.

(c) Except as reported in this Schedule 13D, neither the Reporting Person nor, to the best knowledge of the Reporting Person, any of the individuals listed on Schedule I have effected any transactions in the Common Stock during the past sixty (60) days.

(d) Not applicable.

(e) Not applicable.

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

Except as disclosed in Items 3 and 4 of this Schedule 13D, there are no contracts, arrangements, understandings or relationships (legal or otherwise) to which the Reporting Person is a party with respect to the securities of the Issuer.

Item 7. Materials to Be Filed as Exhibits

Exhibit Common Stock Purchase Agreement, dated October 15, 2023 between Assembly Biosciences, Inc. and Gilead Sciences, Inc. (incorporated by reference to 99.1 Exhibit 10.2 of Assembly Biosciences, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on October 17, 2023)

Exhibit Investor Rights Agreement, dated October 15, 2023 between Assembly Biosciences, Inc. and Gilead Sciences, Inc. (incorporated by reference to Exhibit 10.3 of 99.2 Assembly Biosciences, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on October 17, 2023)

SIGNATURE

After reasonable inquiry and to the best of the undersigned's knowledge and belief, the undersigned certifies that the information set forth in this statement is true, complete and correct.

Date: October 25, 2023

GILEAD SCIENCES, INC.

By: /s/ Andrew D. Dickinson

Name: Andrew D. Dickinson

Title: Chief Financial Officer

Schedule I

The name and present principal occupation of each of the executive officers and directors of Gilead Sciences, Inc. are set forth below. Unless otherwise noted, each of these persons have as their business address c/o Gilead Sciences, Inc., 333 Lakeside Drive, Foster City, California 94404.

Name	Title	Citizenship	Principal Occupation and, if not employed by Gilead Sciences, Inc., Name, Principal Business and Address of Employer
Daniel P. O'Day	Chief Executive Officer, Chairman and Director	United States	*
Jacqueline K. Barton, Ph.D.	Director	United States	Professor Emerita, California Institute of Technology
Jeffrey A. Bluestone, Ph.D.	Director	United States	President and Chief Executive Officer, Sonoma Biotherapeutics; Professor, University of California San Francisco
Sandra J. Horning, M.D.	Director	United States	Retired Chief Medical Officer of Roche, Inc.
Kelly A. Kramer	Director	United States	Retired Executive Vice President and Chief Financial Officer, Cisco Systems, Inc.
Kevin E. Lofton, FACHE	Director	United States	Retired Chief Executive Officer, CommonSpirit Health
Harish Manwani	Director	Singapore	Senior Operating Partner, Blackstone
Javier J. Rodriguez	Director	Mexico	Chief Executive Officer, DaVita, Inc.
Anthony Welters	Director	United States	Chairman and Chief Executive Officer, CINQ Care Inc
Andrew D. Dickinson	Chief Financial Officer	United States	*
Johanna Mercier	Chief Commercial Officer	United States	*
Merdad V. Parsey, M.D., Ph.D.	Chief Medical Officer	United States	*
Deborah H. Telman	Executive Vice President, Corporate Affairs and General Counsel	United States	*

* The present principal occupation for each of these individuals is officer of Gilead Sciences, Inc. and officer, trustee and/or director of other affiliated entities.