

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ▶ Complete all entries in accordance with the instructions to the Form 5500.	OMB Nos. 1210-0110 1210-0089 2022 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>	
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) ____
B This return/report is:	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)
E If this is a retroactively adopted plan permitted by SECURE Act section 201, check here.	☐

Part II Basic Plan Information —enter all requested information		
1a Name of plan <u>ASSEMBLY BIOSCIENCES, INC. 401(K) PLAN</u>	1b Three-digit plan number (PN) ▶	<u>001</u>
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>ASSEMBLY BIOSCIENCES, INC.</u> <u>331 OYSTER POINT BLVD</u> <u>FOURTH FL</u> <u>SOUTH SAN FRANCISCO, CA 94080-1913</u>	1c Effective date of plan <u>01/01/2018</u>	2b Employer Identification Number (EIN) <u>20-8729264</u>
	2c Plan Sponsor's telephone number <u>833-509-4583</u>	2d Business code (see instructions) <u>325410</u>

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/12/2023	JEANETTE BJORKQUIST
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2022)
v. 220413

3a Plan administrator's name and address ☒ Same as Plan Sponsor		3b Administrator's EIN 3c Administrator's telephone number
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name ASSEMBLY BIOSCIENCES INC c Plan Name ASSEMBLY BIOSCIENCES INC 401(K) PROFIT SHARING PLAN & TRUST		4b EIN 20-8729264 4d PN 001
5 Total number of participants at the beginning of the plan year		5 186
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d). a(1) Total number of active participants at the beginning of the plan year a(2) Total number of active participants at the end of the plan year b Retired or separated participants receiving benefits c Other retired or separated participants entitled to future benefits..... d Subtotal. Add lines 6a(2) , 6b , and 6c e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. f Total. Add lines 6d and 6e g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)..... h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested.....		6a(1) 101 6a(2) 83 6b 0 6c 75 6d 158 6e 0 6f 158 6g 151 6h 0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)		7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 3D 2E 2F 2G 2J 2K 2T b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:		
9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor		9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)		
a Pension Schedules (1) ☒ R (Retirement Plan Information) (2) ☐ MB (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary (3) ☐ SB (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary		b General Schedules (1) ☒ H (Financial Information) (2) ☐ I (Financial Information – Small Plan) (3) ☐ 0 A (Insurance Information) (4) ☒ C (Service Provider Information) (5) ☒ D (DFE/Participating Plan Information) (6) ☐ G (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2022 Form M-1 annual report. If the plan was not required to file the 2022 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2022
		This Form is Open to Public Inspection.

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan ASSEMBLY BIOSCIENCES, INC. 401(K) PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 ASSEMBLY BIOSCIENCES, INC.	D Employer Identification Number (EIN) 20-8729264	

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☒ Yes ☐ No
- b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
FIDELITY INVESTMENTS INSTITUTIONAL
04-2647786

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

FIDELITY INVESTMENTS INSTITUTIONAL

04-2647786

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
37 60 64 65	RECORDKEEPER	8264	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☒ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
FIDELITY INVESTMENTS INSTITUTIONAL	60	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
DODGE & COX STOCK I - DST ASSET MA 430 W 7TH STREET STE 219432 KANSAS CITY, MO 64105	0.10%	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

SCHEDULE D (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration	DFE/Participating Plan Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2022
		This Form is Open to Public Inspection.

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan ASSEMBLY BIOSCIENCES, INC. 401(K) PLAN	B Three-digit plan number (PN) ▶	001
C Plan or DFE sponsor's name as shown on line 2a of Form 5500 ASSEMBLY BIOSCIENCES, INC.	D Employer Identification Number (EIN) 20-8729264	

Part I	Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs) (Complete as many entries as needed to report all interests in DFEs)
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a Name of MTIA, CCT, PSA, or 103-12 IE: METLIFE STABLE VALUE SOLUTION J		
b Name of sponsor of entity listed in (a): WILMINGTON TRUST		
c EIN-PN 26-0142858-094	d Entity code C	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 0
a Name of MTIA, CCT, PSA, or 103-12 IE: PUTNAM STABLE VALUE		
b Name of sponsor of entity listed in (a): PUTNAM FIDUCIARY TRUST COMPANY		
c EIN-PN 04-3159710-202	d Entity code C	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 401991
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
a Name of MTIA, CCT, PSA, or 103-12 IE:		
b Name of sponsor of entity listed in (a):		
c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
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plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>		
A Name of plan <u>ASSEMBLY BIOSCIENCES, INC. 401(K) PLAN</u>		B Three-digit plan number (PN) <u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>ASSEMBLY BIOSCIENCES, INC.</u>		D Employer Identification Number (EIN) <u>20-8729264</u>

Part I Asset and Liability Statement			
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.			
Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash.....	1a	0	0
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions.....	1b(1)	0	0
(2) Participant contributions.....	1b(2)	0	0
(3) Other.....	1b(3)	0	0
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit).....	1c(1)	0	154
(2) U.S. Government securities	1c(2)	0	0
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)	0	0
(B) All other	1c(3)(B)	0	0
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)	0	0
(B) Common.....	1c(4)(B)	0	0
(5) Partnership/joint venture interests	1c(5)	0	0
(6) Real estate (other than employer real property)	1c(6)	0	0
(7) Loans (other than to participants).....	1c(7)	0	0
(8) Participant loans.....	1c(8)	32330	25185
(9) Value of interest in common/collective trusts.....	1c(9)	436588	401991
(10) Value of interest in pooled separate accounts	1c(10)	0	0
(11) Value of interest in master trust investment accounts.....	1c(11)	0	0
(12) Value of interest in 103-12 investment entities	1c(12)	0	0
(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)	11293735	10097569
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)	0	0
(15) Other	1c(15)	0	0

1d Employer-related investments:		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)	0	0
(2) Employer real property	1d(2)	0	0
e Buildings and other property used in plan operation	1e	0	0
f Total assets (add all amounts in lines 1a through 1e)	1f	11762653	10524899

Liabilities

g Benefit claims payable	1g	0	0
h Operating payables	1h	0	0
i Acquisition indebtedness	1i	0	0
j Other liabilities	1j	0	0
k Total liabilities (add all amounts in lines 1g through 1j)	1k	0	0

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	11762653	10524899
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income

a Contributions:			
(1) Received or receivable in cash from: (A) Employers.....	2a(1)(A)	857004	
(B) Participants.....	2a(1)(B)	1795467	
(C) Others (including rollovers).....	2a(1)(C)	55612	
(2) Noncash contributions.....	2a(2)	0	2708083
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit).....	2b(1)(A)	1	
(B) U.S. Government securities.....	2b(1)(B)	0	
(C) Corporate debt instruments.....	2b(1)(C)	0	
(D) Loans (other than to participants).....	2b(1)(D)	0	
(E) Participant loans.....	2b(1)(E)	1391	
(F) Other.....	2b(1)(F)	0	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		1392
(2) Dividends: (A) Preferred stock.....	2b(2)(A)	0	
(B) Common stock.....	2b(2)(B)	0	
(C) Registered investment company shares (e.g. mutual funds).....	2b(2)(C)	267621	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		267621
(3) Rents.....	2b(3)		0
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds.....	2b(4)(A)	0	
(B) Aggregate carrying amount (see instructions).....	2b(4)(B)	0	
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result.....	2b(4)(C)		
(5) Unrealized appreciation (depreciation) of assets: (A) Real estate.....	2b(5)(A)	0	
(B) Other.....	2b(5)(B)	0	
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		-16170
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		0
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		0
(9) Net investment gain (loss) from 103-12 investment entities.....	2b(9)		0
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		-2708343
c Other income	2c		2
d Total income. Add all income amounts in column (b) and enter total	2d		252585
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	1481315	
(2) To insurance carriers for the provision of benefits	2e(2)	0	
(3) Other	2e(3)	0	
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		1481315
f Corrective distributions (see instructions)	2f		0
g Certain deemed distributions of participant loans (see instructions)	2g		0
h Interest expense	2h		0
i Administrative expenses: (1) Professional fees	2i(1)	0	
(2) Contract administrator fees	2i(2)	0	
(3) Investment advisory and management fees	2i(3)	357	
(4) Other	2i(4)	8667	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		9024
j Total expenses. Add all expense amounts in column (b) and enter total	2j		1490339
Net Income and Reconciliation			
k Net income (loss). Subtract line 2j from line 2d	2k		-1237754
l Transfers of assets:			
(1) To this plan	2l(1)		0
(2) From this plan	2l(2)		0

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☒ Unmodified (2) ☐ Qualified (3) ☐ Disclaimer (4) ☐ Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) ☒ DOL Regulation 2520.103-8 (2) ☐ DOL Regulation 2520.103-12(d) (3) ☐ neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: WITHUM SMITH BROWN, PC

(2) EIN: 22-2027092

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)

	Yes	No	Amount
4a		X	

	Yes	No	Amount
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)			
4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)			
4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)			
4d		X	
e Was this plan covered by a fidelity bond?	X		1000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	X		
4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)			
4j		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?			
4k		X	
l Has the plan failed to provide any benefit when due under the plan?			
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	X		
4m	X		
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.	X		
4n	X		

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☐ Yes ☐ No ☐ Not determined

If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____.

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection.
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan ASSEMBLY BIOSCIENCES, INC. 401(K) PLAN		B Three-digit plan number (PN) ► 001
C Plan sponsor's name as shown on line 2a of Form 5500 ASSEMBLY BIOSCIENCES, INC.		D Employer Identification Number (EIN) 20-8729264
Part I Distributions		
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....		1
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 16-1470238 04-6568107 Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year.....		3
Part II Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)		
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☐ No ☐ N/A If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____ If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived).....		6a
b Enter the amount contributed by the employer to the plan for this plan year.....		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☐ N/A		
Part III Amendments		
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box..... ☐ Increase ☐ Decrease ☐ Both ☐ No		
Part IV ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.		
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?..... ☐ Yes ☐ No		
11 a Does the ESOP hold any preferred stock?..... ☐ Yes ☐ No		
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.)..... ☐ Yes ☐ No		
12 Does the ESOP hold any stock that is not readily tradable on an established securities market?..... ☐ Yes ☐ No		
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2022 v. 220413		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that (1) contributed more than 5% of total contributions to the plan during the plan year or (2) was one of the top-ten highest contributors (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14	Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:		
	a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....	14a	
	b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14b	
	c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14c	
15	Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:		
	a The corresponding number for the plan year immediately preceding the current plan year.....	15a	
	b The corresponding number for the second preceding plan year.....	15b	
16	Information with respect to any employers who withdrew from the plan during the preceding plan year:		
	a Enter the number of employers who withdrew during the preceding plan year	16a	
	b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers.....	16b	
17	If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐		

Part VI	Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans
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18	If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐
19	If the total number of participants is 1,000 or more, complete lines (a) through (c) a Enter the percentage of plan assets held as: Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____% b Provide the average duration of the combined investment-grade and high-yield debt: ☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more c What duration measure was used to calculate line 19(b)? ☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____
20	PBGC missed contribution reporting requirements. If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20. a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box: ☐ Yes. ☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date. ☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date. ☐ No. Other. Provide explanation _____

ASSEMBLY BIOSCIENCES, INC. 401(K) PLAN
Financial Statements
December 31, 2022 and 2021
With Independent Auditor's Report

Assembly Biosciences, Inc. 401(k) Plan
Table of Contents
December 31, 2022 and 2021

Independent Auditor's Report	1-3
Financial Statements	
Statements of Net Assets Available for Benefits	4
Statement of Changes in Net Assets Available for Benefits	5
Notes to Financial Statements	6-11
Supplementary Information	
Schedule H, Part IV, Line 4i - Schedule of Assets (Held at End of Year)	12

INDEPENDENT AUDITOR'S REPORT

To the Trustees and Participants of
Assembly Biosciences, Inc. 401(k) Plan:

Scope and Nature of the ERISA Section 103(a)(3)(C) Audit

We have performed an audits of the financial statements of Assembly Biosciences, Inc. 401(k) Plan, an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 ("ERISA"), as permitted by ERISA Section 103(a)(3)(C) ("ERISA Section 103(a)(3)(C) audit"). The financial statements comprise the statement of net assets available for benefits as of December 31, 2022 and 2021, and the related statement of changes in net assets available for benefits for the year then ended December 31, 2022, and the related notes to the financial statements.

Management, having determined it is permissible in the circumstances, has elected to have the audits of Assembly Biosciences, Inc. 401(k) Plan's financial statements performed in accordance with ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the Department of Labor's ("DOL") Rules and Regulations for Reporting and Disclosure under ERISA. As permitted by ERISA Section 103(a)(3)(C), our audits need not extend to any statements or information related to assets held for investment of the Plan ("investment information") by a bank or similar institution or insurance carrier that is regulated, supervised, and subject to periodic examination by a state or federal agency, provided that the statements or information regarding assets so held are prepared and certified to by the bank or similar institution or insurance carrier in accordance with 29 CFR 2520.103-5 of the DOL's Rules and Regulations for Reporting and Disclosure under ERISA ("qualified institution").

Management has obtained certifications from a qualified institution as of December 31, 2022 and 2021, and for the year ended December 31, 2022, stating that the certified investment information, as described in Note 5 to the financial statements, is complete and accurate.

Opinion

In our opinion, based on our audits and on the procedures performed as described in the Auditor's Responsibilities for the Audit of the Financial Statements section:

- The amounts and disclosures in the accompanying financial statements, other than those agreed to or derived from the certified investment information, are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America.
- The information in the accompanying financial statements related to assets held by and certified to by a qualified institution agrees to, or is derived from, in all material respects, the information prepared and certified by an institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America ("GAAS"). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of Assembly Biosciences, Inc. 401(k) Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our ERISA Section 103(a)(3)(C) audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error. Management's election of the ERISA Section 103(a)(3)(C) audit does not affect management's responsibility for the financial statements.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about Assembly Biosciences, Inc. 401(k) Plan's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the plan, and determining that the plan's transactions that are presented and disclosed in the financial statements are in conformity with the plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.

Auditor's Responsibilities for the Audit of the Financial Statements

Except as described in the Scope and Nature of the ERISA Section 103(a)(3)(C) Audit section of our report, our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if, there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Assembly Biosciences, Inc. 401(k) Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Assembly Biosciences, Inc. 401(k) Plan's ability to continue as a going concern for a reasonable period of time.

Our audits did not extend to the certified investment information, except for obtaining and reading the certification, comparing the certified investment information with the related information presented and disclosed in the financial statements, and reading the disclosures relating to the certified investment information to assess whether they are in accordance with the presentation and disclosure requirements of accounting principles generally accepted in the United States of America.

Accordingly, the objective of an ERISA Section 103(a)(3)(C) audit is not to express an opinion about whether the financial statements as a whole are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Other Matters - Supplementary Schedules Required by ERISA

The supplementary schedule, Schedule H, Part IV, Line 4i - Schedule of Assets (Held at End of Year) as of December 31, 2022, is presented for purposes of additional analysis and is not a required part of the financial statements but is supplementary information required by the DOL's Rules and Regulations for Reporting and Disclosure under ERISA. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information included in the supplementary schedule, other than that agreed to or derived from the certified investment information, has been subjected to auditing procedures applied in the audits of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS. For information included in the supplementary schedule that agreed to or is derived from the certified investment information, we compared such information to the related certified investment information.

In forming our opinion on the supplementary schedule, we evaluated whether the supplementary schedule, other than the information agreed to or derived from the certified investment information, including its form and content, is presented in conformity with the DOL's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion:

- The form and content of the supplementary schedule, other than the information in the supplementary schedule that agreed to or is derived from the certified investment information, are presented, in all material respects, in conformity with the DOL's Rules and Regulations for Reporting and Disclosure under ERISA.
- The information in the supplementary schedule related to assets held by and certified to by a qualified institution agrees to, or is derived from, in all material respects, the information prepared and certified by an institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

A handwritten signature in blue ink that reads "Withum Smith & Brown, PC".

October 6, 2023

Assembly Biosciences, Inc. 401(k) Plan
Statements of Net Assets Available for Benefits
December 31, 2022 and 2021

		<u>2022</u>	<u>2021</u>
Assets	-		
Investments at fair value			
Interest-bearing cash		\$ 154	\$ -
Mutual funds		10,097,569	11,293,735
Common collective trusts		<u>401,991</u>	<u>436,588</u>
Total investments		<u>10,499,714</u>	<u>11,730,323</u>
Receivables			
Notes receivable from participants		25,185	32,330
Employer contribution receivable		92,711	126,803
Participants contribution receivable		<u>-</u>	<u>28,647</u>
Total receivables		<u>117,896</u>	<u>187,780</u>
Net assets available for benefits		<u>\$ 10,617,610</u>	<u>\$ 11,918,103</u>

The Notes to Financial Statements are an integral part of these statements.

Assembly Biosciences, Inc. 401(k) Plan
Statement of Changes in Net Assets Available for Benefits
Year Ended December 31, 2022

Additions

Investment income (loss)	
Interest and dividends	\$ 267,621
Net depreciation in fair value of investments	<u>(2,724,511)</u>
Total investment income (loss)	<u>(2,456,890)</u>
 Interest on notes receivable from participants	 <u>1,392</u>
 Contributions	
Employer	822,912
Participants	1,766,820
Rollover contributions	<u>55,612</u>
Total contributions	<u>2,645,344</u>
 Total additions, net	 <u>189,846</u>

Deductions

Benefits paid directly to participants	1,481,315
Administrative expenses	<u>9,024</u>
Total deductions	<u>1,490,339</u>

Net change in net assets available for benefits (1,300,493)

Net assets available for benefits

Beginning of year	<u>11,918,103</u>
 End of year	 <u>\$ 10,617,610</u>

The Notes to Financial Statements are an integral part of this statement.

Assembly Biosciences, Inc. 401(k) Plan
Notes to Financial Statements
December 31, 2022 and 2021

1. DESCRIPTION OF THE PLAN

The following description of Assembly Biosciences, Inc. 401(k) Plan (the “Plan”) provides only general information. Participants should refer to the Plan document for a more complete description of the Plan’s provisions.

General

The Plan is a defined contribution plan that was established on January 1, 2018, and is subject to the provisions of Employee Retirement Income Security Act of 1974 (“ERISA”).

Eligibility

All non-excluded employees age 21 years or older are eligible to make elective deferrals and receive matching contributions. Employees are eligible to receive non-elective profit sharing upon completion of one year of service. Excluded employees are employees covered by a collective bargaining agreement and nonresident aliens. The Plan Administrator is responsible for oversight of the Plan and determines the appropriateness of the Plan’s investment offerings and monitors investment performance.

Employee Contributions

Each year, participants may elect to contribute up to 92% of their eligible compensation, on a pre-tax or post-tax basis, as defined by the Plan, up to the maximum amount allowed by law. Participants who have attained age 50 before the end of the Plan year are eligible to make catchup contributions. Participants may also contribute amounts representing distributions from other qualified defined benefit or defined contribution plans (rollover). Participants direct the investment of their contributions into various investment options offered by the Plan.

Employer Contributions

Assembly Biosciences, Inc. (the “Company”) provides a matching contribution whereby participant contributions are matched 100% up to 4% of the participant’s eligible compensation. The Company has the option to provide additional matching and/or profit-sharing contributions at their discretion each Plan year which would be allocated to all eligible participants in a uniform manner. For 2022, the Company did not make any discretionary matching or profit sharing contributions to the Plan.

Participant Accounts

Each participant’s account is credited with the participant’s contributions, rollovers and an allocation of (a) the Company’s matching contributions, (b) the Company’s profit-sharing contribution and (c) Plan earnings and charged with an allocation of (a) Plan losses and (b) administrative expenses. Allocations are based on participant earnings, account balances or specific participant transactions, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant’s vested account.

Vesting

Participants are immediately vested in their elective deferral, Roth deferrals, rollover contributions, employer’s matching contributions and actual earnings and losses thereon. Vesting in the Company’s profit-sharing contributions is based on years of continuous service, as follows: less than 2 years- 0%; 2 years - 20%; 3 years - 40%; 4 years - 60%; 5 years - 80%; and 6 years - 100%. A participant becomes fully vested regardless of the vesting schedule in case of death or permanent disability.

Forfeitures

Any forfeiture will first be used to reduce administrative expenses; thereafter, the remainder is used to reduce employer contributions. There were no forfeitures as of December 31, 2022 or 2021.

Assembly Biosciences, Inc. 401(k) Plan
Notes to Financial Statements
December 31, 2022 and 2021

Notes Receivable from Participants

Participants may borrow from their fund accounts a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or 50% of their vested account balance. Loan terms may not exceed 60 months unless the loan is used to purchase a participant's principal residence, in which case repayment must be made within ten years. Loans are secured by the participant's account and bear interest which is commensurate with local prevailing lending rates. Principal and interest are paid ratably through payroll deductions or by payments from the participant to the Plan.

Payment of Benefits

Upon termination of service, upon attainment of age 59 ½, death, disability, or retirement, a participant may elect to receive an amount equal to the value of the participant's vested interest in his or her account in a lump-sum payment in cash or in installment payments. If the benefit amount is \$5,000 or less, the Plan shall make a lump-sum distribution without the participant's consent. Hardship distributions are not permitted under the Plan.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The financial statements have been prepared on the accrual basis of accounting.

Use of Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Investment Valuation and Income Recognition

Investments, except for fully benefit-responsive investment contracts, are reported at fair value. Fully benefit responsive investment contracts are reported at contract value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 3 for discussion of fair value measurements.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net depreciation includes the Plan's gains and losses on investments bought and sold as well as held during the year.

Benefit Payments

Benefits are recorded when paid.

Administrative Expenses

Certain expenses of maintaining the Plan are paid by the Plan, unless otherwise paid by the Company. Expenses that are paid by the Company are excluded from these financial statements. Fees related to the administration of notes receivable from participants are charged directly to the participant's account and are included in administrative expenses. Investment related expenses are included in the net depreciation of fair value of investments and are not readily determinable. Administrative expenses paid by the Plan totaled \$9,024 for the year ended December 31, 2022.

Assembly Biosciences, Inc. 401(k) Plan
Notes to Financial Statements
December 31, 2022 and 2021

Notes Receivable from Participants

Notes receivable from participants are measured at their unpaid principal balance plus any accrued but unpaid interest at interest rates currently at 4.25% and 5.00% with varying maturity dates through November 2025. Interest income is recorded on the accrual basis. Related fees are recorded as administrative expenses and are expensed when they are incurred. No allowance for credit losses has been recorded as of December 31, 2022. If a participant ceases to make loan repayments and the Plan Administrator deems the loan to be in default, the participant loan balance is reduced, and a benefit payment is recorded.

Risks and Uncertainties

The Plan invests in investment securities. Investment securities are exposed to various risks such as interest rate, market volatility, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

Subsequent Events

The Plan evaluated subsequent events through October 6, 2023, the date these financial statements were issued. Based on this evaluation, the Plan has determined that no material subsequent events have occurred which require recognition or disclosure in these financial statements

3. FAIR VALUE MEASUREMENTS

Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 820, Fair Value Measurements and Disclosures, establishes a framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under FASB ASC 820 are described as follows:

Level 1 - Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access.

Level 2 - Inputs to the valuation methodology include:

- Quoted prices for similar assets or liabilities in active markets;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Inputs other than quoted prices that are observable for the asset or liability; and
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 - Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques maximize the use of relevant observable inputs and minimize the use of unobservable inputs.

Assembly Biosciences, Inc. 401(k) Plan
Notes to Financial Statements
December 31, 2022 and 2021

The following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes to the methodologies used at December 31, 2022 and 2021:

Interest-Bearing Cash: Valued at market value of corresponding currency at year end.

Mutual Funds: Valued at the daily closing price as reported by the fund. Mutual funds held by the Plan are open-end mutual funds that are registered with the Securities and Exchange Commission. These funds are required to publish their daily net asset value ("NAV") and to transact at that price. The mutual funds held by the Plan are deemed to be actively traded.

Common Collective Trusts: Collective trust funds represent interests in pooled investment vehicles designed typically for collective investment of employee benefit trusts. The fair values of these investments are determined by reference to the NAV per unit provided by the fund managers as the basis for current transactions. There are no unfunded commitments as of December 31, 2021. Participants are able to redeem their balances immediately. Plan wide redemptions take 60 days to clear. There are no other restrictions on redemptions.

The following table sets forth by level, within the fair value hierarchy, the Plan's assets at fair value as of December 31:

2022				
	Level 1	Level 2	Level 3	Total
Interest-bearing cash	\$ 154	\$ -	\$ -	\$ 154
Mutual Funds	10,097,569	-	-	10,097,569
Total assets under fair value hierarchy	10,097,723	-	-	10,097,723
Investments measured at net asset value (a)	-	-	-	401,991
Total investments at fair value	<u>\$ 10,097,723</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 10,499,714</u>
2021				
	Level 1	Level 2	Level 3	Total
Mutual Funds	\$ 11,293,735	\$ -	\$ -	\$ 11,293,735
Total assets under fair value hierarchy	11,293,735	-	-	11,293,735
Investments measured at net asset value (a)	-	-	-	436,588
Total investments at fair value	<u>\$ 11,293,735</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 11,730,323</u>

- (a) In accordance with Subtopic 820-10, certain investments that were measured at NAV per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the line items presented in the statements of net assets available for benefits.

Assembly Biosciences, Inc. 401(k) Plan
Notes to Financial Statements
December 31, 2022 and 2021

4. PARTIAL TERMINATION

As a result of a reduction of the Plan Sponsor's workforce in 2022, the Plan experienced a partial plan termination as defined by ERISA in 2022. Under ERISA, a partial plan termination may occur if a significant percentage of the Plan participants are terminated because of an action taken by the Plan Sponsor. If a partial plan termination occurs, full vesting in the employer's profit-sharing contribution is required for the affected participants, but the remaining participants' vesting continues to be determined per the Plan provisions.

All affected employees who were participants in the Plan were fully vested in their account balances at the date of their partial plan termination.

5. INFORMATION CERTIFIED BY TRUSTEE

No auditing procedures were performed by the independent auditor as permitted by ERISA Section 103(a)(3)(C) with respect to information certified as complete and accurate by Mid Atlantic Trust Company and Fidelity Management Trust Company, the Trustees of the Plan ("trustee"), except for comparing such information with the information reported in the financial statements. Based on information provided and certified by the trustees, there are no fixed income obligations, leases, or debt instruments in default or deemed uncollectible, as defined by ERISA, as of December 31, 2022 and 2021. Accordingly, the trustees of the Plan's assets has certified to the completeness and accuracy of the following:

- Investments and notes receivable from participants reflected on the accompanying Statements of Net Assets Available for Benefits as of December 31, 2022 and 2021, as well as the supplementary Schedule of Assets (Held at End of Year) as of December 31, 2022.
- Net depreciation in fair value of investments, interest and dividends reflected on the accompanying Statement of Changes in Net Assets Available for Benefits for the year ended December 31, 2022.

6. INCOME TAX STATUS

The Plan document is a volume submitter defined contribution plan that received a favorable opinion letter from the IRS on June 30, 2020, which stated that the Plan, as then designed, was in compliance with the applicable requirements of the Internal Revenue Code ("IRC"). The Plan has been amended since receiving the opinion letter. However, the plan administrator believes that the Plan is currently designated and being operated in compliance with the applicable requirement of the IRC.

The plan administrator has analyzed the tax positions taken by the Plan, and has concluded that as of December 31, 2022 and 2021, there are no uncertain tax positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

7. PARTY-IN-INTEREST TRANSACTIONS

Plan investments were managed by Mid Atlantic Trust Company as of December 31, 2021, and for the period January 1, 2022 to May 8, 2022, and by Fidelity Investments from May 9, 2022 through December 31, 2022. Fidelity Investments is an affiliate of the Trustee and, therefore, these transactions qualify as party-in-interest transactions. In addition, the Plan issues notes receivable from participants, which are secured by the balances in the participants' accounts. These transactions qualify as party-in-interest transactions for which a statutory exemption exists.

Assembly Biosciences, Inc. 401(k) Plan
Notes to Financial Statements
December 31, 2022 and 2021

8. RECONCILIATION OF FINANCIAL STATEMENTS TO FORM 5500

The Form 5500 was prepared on the cash basis of accounting. The following is a reconciliation of net assets available for benefits per the financial statements to the Form 5500 for the years ended December 31:

	<u>2022</u>	<u>2021</u>
Net assets available for benefits per the financial statements	\$ 10,617,610	\$ 11,918,103
Less: Contributions receivable from participants	-	(28,647)
Less: Contributions receivable from employer	<u>(92,711)</u>	<u>(126,803)</u>
Net assets available for benefits per the Form 5500	<u>\$ 10,524,899</u>	<u>\$ 11,762,653</u>

The following is a reconciliation of the net change in net assets available for benefits per the financial statements to the Form 5500 for the year ended December 31:

	<u>2022</u>
Net change in net assets available for benefits per the financial statements	\$ (1,300,493)
Less: 2022 contributions receivable from participants	-
Less: 2022 contributions receivable from employer	(92,711)
Add: 2021 contributions receivable from participants	28,647
Add: 2021 contributions receivable from employer	<u>126,803</u>
Net change in net assets available for benefits per the Form 5500	<u>\$ (1,237,754)</u>

SUPPLEMENTARY INFORMATION

Assembly Biosciences, Inc. 401(k) Plan
Schedule H, Part IV, Line 4i - Schedule of Assets (Held at End of Year)
EIN #20-8729264, Plan #001
December 31, 2022

(a)	(b) Identity of Issue, Borrower Lessor, or Similar Party	(c) Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost **	(d) Current Value
	American Funds	EuroPacific Growth Fund	N/A	\$ 293,149
	DFA	Emerging Markets Core Equity Fund	N/A	67,803
	DFA	Real Estate Estate Securities Fund	N/A	189,950
	Dodge & Cox	Stock Fund	N/A	860,282
*	Fidelity	500 Index Fund	N/A	1,893,965
*	Fidelity	Freedom Index 2015 Fund	N/A	10,761
*	Fidelity	Freedom Index 2020 Fund	N/A	103,350
*	Fidelity	Freedom Index 2025 Fund	N/A	259,415
*	Fidelity	Freedom Index 2030 Fund	N/A	348,780
*	Fidelity	Freedom Index 2035 Fund	N/A	371,684
*	Fidelity	Freedom Index 2040 Fund	N/A	2,164,519
*	Fidelity	Freedom Index 2045 Fund	N/A	576,932
*	Fidelity	Freedom Index 2050 Fund	N/A	407,610
*	Fidelity	Freedom Index 2055 Fund	N/A	34,716
*	Fidelity	Freedom Index 2060 Fund	N/A	53,496
*	Fidelity	Freedom Index Income Fund	N/A	51,933
*	Fidelity	Government Money Market Fund	N/A	154
*	Fidelity	International Index Fund	N/A	29,314
*	Fidelity	Mid Cap Index Fund	N/A	328,170
*	Fidelity	Small Cap Index Fund	N/A	393,667
*	Fidelity	Total Bond Fund	N/A	229,296
*	Fidelity	US Sustainability Index Fund	N/A	6,153
	Lord Abbott	Short Duration Income Fund	N/A	260,229
	PIMCO	Income Fund	N/A	319,128
	Putnam	Stable Value Fund	N/A	401,991
	T. Rowe Price	Blue Chip Growth Fund	N/A	843,267
				10,499,714
*	<u>Notes Receivable From Participants</u>	Interest rates at 4.25% to 5.00% maturing through November 2025	-	25,185
				<u>\$ 10,524,899</u>

* A party in interest, as defined by ERISA.

** Column (d), cost, has been omitted as investments are all participant-directed.

See Independent Auditor's Report.

Assembly Biosciences, Inc. 401(k) Plan
Schedule H, Part IV, Line 4i - Schedule of Assets (Held at End of Year)
EIN #20-8729264, Plan #001
December 31, 2022

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*	Fidelity	Freedom Index 2015 Fund	N/A	10,761
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*	Fidelity	Freedom Index 2025 Fund	N/A	259,415
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*	Fidelity	Freedom Index 2040 Fund	N/A	2,164,519
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*	Fidelity	Freedom Index 2050 Fund	N/A	407,610
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