

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 01/01/2022 and ending 12/31/2022	
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	RHYTHM PHARMACEUTICALS INC. 401K PLAN
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)	RHYTHM PHARMACEUTICALS INC. 222 BERKELEY ST. 12TH FLOOR BOSTON, MA 02116
1b Three-digit plan number (PN) ►	001
1c Effective date of plan	01/01/2016
2b Employer Identification Number (EIN)	46-2159271
2c Plan Sponsor's telephone number	857-264-4290
2d Business code (see instructions)	541700

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.	10/13/2023	CHRISTOPHER GERMAN
	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

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 c Plan Name	4b EIN 4d PN
5 Total number of participants at the beginning of the plan year	5 142
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) 115 6a(2) 140 6b 0 6c 38 6d 178 6e 0 6f 178 6g 178 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: 2E 2F 2G 2J 2K 2S 2T 3D 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 RHYTHM PHARMACEUTICALS INC. 401K PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 RHYTHM PHARMACEUTICALS INC.	D Employer Identification Number (EIN) 46-2159271	

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)

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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 64 65	RECORDKEEPER	22456	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
(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.	
(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
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(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 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>RHYTHM PHARMACEUTICALS INC. 401K PLAN</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">B Three-digit plan number (PN) ►</td> <td style="width: 20%; text-align: center;"><u>001</u></td> </tr> <tr> <td colspan="2" style="height: 20px;"></td> </tr> </table>		B Three-digit plan number (PN) ►	<u>001</u>		
B Three-digit plan number (PN) ►	<u>001</u>					
C Plan sponsor's name as shown on line 2a of Form 5500 <u>RHYTHM PHARMACEUTICALS INC.</u>	D Employer Identification Number (EIN) <u>46-2159271</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	185298
(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) 30495	175375
(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) 43213	88461
(9) Value of interest in common/collective trusts.....		1c(9) 0	0
(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) 9245397	10848760
(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	9319105	11297894

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	9319105	11297894
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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) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	1602414	
(B) Participants	2a(1)(B)	2331880	
(C) Others (including rollovers)	2a(1)(C)	929896	
(2) Noncash contributions	2a(2)	0	
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		4864190
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)	3720	
(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)	2921	
(F) Other	2b(1)(F)	0	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		6641
(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)	249118	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		249118
(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)		0
(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)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		0
(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)		-2123241
c Other income	2c		0
d Total income. Add all income amounts in column (b) and enter total	2d		2996708
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	976903	
(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)		976903
f Corrective distributions (see instructions)	2f		17394
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)	1166	
(4) Other	2i(4)	22456	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		23622
j Total expenses. Add all expense amounts in column (b) and enter total	2j		1017919
Net Income and Reconciliation			
k Net income (loss). Subtract line 2j from line 2d	2k		1978789
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: **AAFCPAS, INC.**

(2) EIN: **04-2571780**

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.)			
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.			
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 <u>RHYTHM PHARMACEUTICALS INC. 401K 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>RHYTHM PHARMACEUTICALS INC.</u>	D Employer Identification Number (EIN) <u>46-2159271</u>

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): <u>04-6568107</u>		
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

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 _____



RHYTHM PHARMACEUTICALS INC. 401K PLAN

FINANCIAL STATEMENTS

**AS OF DECEMBER 31, 2022 AND 2021 AND
FOR THE YEAR ENDED DECEMBER 31, 2022**

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Contents
December 31, 2022 and 2021

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Independent Auditor's Report

To the Plan Administrator of
Rhythm Pharmaceuticals Inc. 401k Plan:

Scope and Nature of the ERISA Section 103(a)(3)(C) Audit for the 2022 Financial Statements

We have performed an audit of the financial statements of Rhythm Pharmaceuticals Inc. 401k 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 the related statement of changes in net assets available for benefits for the year then ended, and the related notes to the financial statements (2022 Financial Statements).

Management, having determined it is permissible in the circumstances, has elected to have the audit of Rhythm Pharmaceuticals Inc. 401k Plan's 2022 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 Rules and Regulations for Reporting and Disclosure under ERISA. As permitted by ERISA Section 103(a)(3)(C), our audit 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 Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA (qualified institution).

Management has obtained a certification from a qualified institution as of December 31, 2022, and for the year then ended, stating that the certified investment information, as described in Note 3 to the financial statements, is complete and accurate.

Opinion on the 2022 Financial Statements

In our opinion, based on our audit and on the procedures performed as described in the Auditor's Responsibilities for the Audit of the 2022 Financial Statements section

- the amounts and disclosures in the accompanying 2022 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 2022 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 on the 2022 Financial Statements

We conducted our audit 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 2022 Financial Statements section of our report. We are required to be independent of Rhythm Pharmaceuticals Inc. 401k Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. 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 2022 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 Rhythm Pharmaceuticals Inc. 401k Plan's ability to continue as a going concern for one year after the date 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 2022 Financial Statements

Except as described in the Scope and Nature of the ERISA Section 103(a)(3)(C) Audit for the 2022 Financial Statements 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 Rhythm Pharmaceuticals Inc. 401k 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 Rhythm Pharmaceuticals Inc. 401k Plan's ability to continue as a going concern for a reasonable period of time.

Our audit 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 2022 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.

Auditor's Responsibilities for the Audit of the 2022 Financial Statements (Continued)

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

2022 Supplemental Schedule Required by ERISA

The supplemental schedule, Form 5500, 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 Department of Labor'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 supplemental schedule, other than that agreed to or derived from the certified investment information, has been subjected to auditing procedures applied in the audit 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 supplemental 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 supplemental schedule, we evaluated whether the supplemental 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 Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion

- the form and content of the supplemental schedule, other than the information in the supplemental schedule that agreed to or is derived from the certified investment information, is presented, in all material respects, in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.
- the information in the supplemental 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).

Accountant's Compilation Report on the 2021 Financial Statements

Management is responsible for the accompanying statement of net assets available for benefits of the Rhythm Pharmaceuticals Inc. 401k Plan as of December 31, 2021, and the related notes to the financial statements in accordance with accounting principles generally accepted in the United States of America. We have performed a compilation engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA. We did not audit or review the 2021 Financial Statements, nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by management. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on this financial statement.

AAFCPA, Inc.

Westborough, Massachusetts
October 12, 2023

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Statements of Net Assets Available for Benefits
December 31, 2022 and 2021

Assets	2022 (Audited)	2021 (Compiled)
Mutual funds, at fair value	<u>\$ 11,024,135</u>	<u>\$ 9,275,892</u>
Receivables:		
Employer contribution receivable	185,298	401,599
Notes receivable from participants	<u>88,461</u>	<u>43,213</u>
Total receivables	<u>273,759</u>	<u>444,812</u>
Net Assets Available for Benefits	<u><u>\$ 11,297,894</u></u>	<u><u>\$ 9,720,704</u></u>

RHYTHM PHARMACEUTICALS INC. 401K PLANStatement of Changes in Net Assets Available for Benefits
For the Year Ended December 31, 2022

Additions to Net Assets Attributed to:

Investment income (loss):	
Interest and dividends	\$ 252,838
Net depreciation of investments	<u>(2,123,241)</u>
Total investment loss	<u>(1,870,403)</u>
Interest income on notes receivable from participants	<u>2,921</u>
Contributions:	
Participant	2,331,880
Employer	1,200,815
Rollover	<u>929,896</u>
Total contributions	<u>4,462,591</u>
Total additions	<u>2,595,109</u>

Deductions from Net Assets Attributed to:

Benefits paid to participants	994,297
Administrative expenses	<u>23,622</u>
Total deductions	<u>1,017,919</u>
Net increase	1,577,190

Net Assets Available for Benefits:

Beginning of year	<u>9,720,704</u>
End of year	<u><u>\$ 11,297,894</u></u>

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Notes to Financial Statements
December 31, 2022 and 2021

1. DESCRIPTION OF PLAN

The following description of Rhythm Pharmaceuticals Inc. 401k Plan (the Plan) provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

a. General

The Plan is a defined contribution 401(k) plan covering all employees of Rhythm Pharmaceuticals (the Plan Sponsor) (the Company). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA). The Plan Administrator is charged with governance and oversight of the Plan, and determines the appropriateness of investment offerings and monitors investment performance.

b. Eligibility

Employees become eligible to participate in the Plan and receive discretionary matching contributions and discretionary nonelective employer contributions upon hire. In order to be eligible for the discretionary nonelective employer contribution, the participant must be employed at year-end, unless terminated due to death, disability or retirement.

c. Contributions

Each year, participants may contribute up to 90% of pre-tax annual compensation, as defined in the Plan, up to the maximum allowed by the Internal Revenue Service (IRS). The Plan allows for catch-up contributions for participants who have attained age fifty by the end of the Plan year. The Plan allows participants to make post-tax (Roth) contributions. Participants may contribute amounts representing distributions from other qualified retirement plans (rollover contributions). Participants direct the investment of their contributions into various investment options offered by the Plan. Participants are auto enrolled into the Plan at 1%, and may opt-out or elect a different deferral amount at any time.

The Company makes a discretionary matching employer contribution of 100% of the first 4% of eligible compensation that a participant contributes to the Plan. During 2022, the Company funded a discretionary matching employer contribution of \$1,200,815. The Company did not make any discretionary nonelective employer contributions during the year ended December 31, 2022.

d. Participant Accounts

Each participant's account is credited with the participant's contributions, allocations of the Plan Sponsor contributions, if any, and Plan earnings or losses, and charged with an allocation of administrative expenses that are paid by the plan. Allocations are based on participant's earnings or losses, account balances, or specific participant transactions, as defined in the Plan document. The benefit to which a participant is entitled to is the benefit that can be provided from the participant's vested account.

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Notes to Financial Statements
December 31, 2022 and 2021

1. DESCRIPTION OF PLAN (Continued)

e. Vesting

Participants are 100% vested in their own contributions, rollover balances, discretionary matching employer contributions and earnings thereon. Participants vest in the Company's discretionary nonelective employer contributions based on years of service as follows:

<u>Years of Service</u>	<u>Percentage</u>
1 year	0%
2 years	20%
3 years	40%
4 years	60%
5 years	80%
6 or more years	100%

Participants become fully vested upon attainment of normal retirement age, death or disability.

f. Payment of Benefits

Upon normal retirement at age 65 or termination of services, a participant may elect to receive either a lump-sum payment equal to the value of the participant's vested account balance, partial withdrawals, or leave their balance in the Plan if the balance is over \$5,000. The Plan requires balances up to \$1,000 to be paid out to participants upon termination, and requires balances from \$1,000 to \$5,000 be rolled over to an individual retirement account (IRA). There are also retirement benefits available upon disability or death.

The Plan allows for in-service withdrawals upon attainment of age 59 ½. A participant could also request a withdrawal upon demonstration to the Plan Administrator that they were suffering a "hardship". Hardship is defined in applicable regulations promulgated or to be promulgated pursuant to the applicable section of the Internal Revenue Code (IRC) or standards established by the Secretary of Treasury or their delegate.

g. Notes Receivable from Participants

Participants may borrow from their accounts a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or one-half of their vested account balance. Loan terms range from one to five years, unless for the purchase of a primary residence, in which the term is ten years. The loans are secured by the balance in the participant's account. The interest rate is set at a commercially reasonable rate determined by the Plan Administrator. Participants may have one loan outstanding at any time. Principal and interest are paid ratably through payroll deductions.

h. Forfeited Accounts

Forfeitures represent non-vested discretionary nonelective employer contributions of participants who terminate their employment or who withdraw from the Plan. Forfeitures are retained by the Plan and are used to reduce future Company contributions and Plan expenses. The Plan applied \$21,456 of unallocated forfeitures to pay for administrative expenses during the year ended December 31, 2022. At December 31, 2022 and 2021, unallocated forfeited accounts totaled \$13,535 and \$16,977, respectively.

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Notes to Financial Statements
December 31, 2022 and 2021

1. DESCRIPTION OF PLAN (Continued)

i. Secure Act 2.0

On December 29, 2022, the Consolidated Appropriations Act of 2023, which included SECURE Act 2.0, was executed. SECURE Act 2.0 contains over ninety new retirement provisions, with varying effective dates through 2027. Since SECURE Act 2.0 provisions include both required and optional elements, the Plan Administrator will determine the optional provisions to elect and amend the Plan document accordingly. Most of the significant provisions will become effective in 2024 and thereafter. Accordingly, there is no material impact to the Plan's 2022 financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The Plan prepares its financial statements in accordance with generally accepted accounting principles (U.S. GAAP) established by the Financial Accounting Standards Board (FASB). References to U.S. GAAP in these notes are to the FASB Accounting Standards Codification (ASC).

Use of Estimates

The preparation of financial statements in accordance with U.S. GAAP 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 at the date of the financial statements. Actual results could differ from those estimates.

Investment Valuation and Income Recognition

Investments are reported at fair 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 4 for disclosure of fair value measurement.

The assets of the Plan are invested in mutual funds. Mutual fund investments are stated at fair market value as determined by the qualified institution based upon the last reported sales price on the last business day of the Plan year. Gains and losses are recognized as incurred upon sale or maturity of investments or based on market value changes during the period.

Purchases and sales of investments are recorded on a trade-date basis. Interest income, including interest income on notes receivable from participants, is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net depreciation of investments includes realized and unrealized gains and losses.

Notes Receivable from Participants

Notes receivable from participants are measured at their unpaid principal balance plus any accrued but unpaid interest. Interest income on notes receivable from participants is recorded on the accrual basis. Related fees are recorded as administrative expenses and are expensed when incurred. No allowances for credit losses have been recorded as of December 31, 2022 and 2021. If a participant ceases to make loan repayments and the Plan Administrator deems the participant loan to be in default, the participant loan balance is reduced, and a benefit payment is recorded.

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Notes to Financial Statements
December 31, 2022 and 2021

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Payment of Benefits

Benefits are recorded when paid.

Administrative Expenses

Certain expenses of maintaining the Plan are paid directly by the Plan Sponsor and are excluded from these financial statements. Asset management and fees related to the administration of notes receivable from participants and processing of distributions are charged directly to the participant's account and are included in administrative expenses. Investment-related expenses are included in net depreciation of investments.

Subsequent Events

Subsequent events have been evaluated through October 12, 2023, which is the date the financial statements were available to be issued. There were no events that met the criteria for recognition or disclosure in the financial statements.

3. INFORMATION PREPARED AND CERTIFIED BY THE PLAN'S QUALIFIED INSTITUTION

The Plan Administrator has elected the method of annual reporting compliance permitted by ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, Fidelity Management Trust Company (Fidelity), qualified institution, has certified to the completeness and accuracy of all investments and notes receivable from participants reported in the accompanying statements of net assets available for benefits as of December 31, 2022 and 2021, and the supplemental schedule, Form 5500, Schedule H, Part IV, Line 4i - Schedule of Assets Held at End of Year as of December 31, 2022, and the related investment transactions and investment income (loss) and interest income on notes receivable from participants reported in the accompanying statement of changes in net assets available for benefits for the year ended December 31, 2022.

At the request of the Plan Administrator, the Plan's independent auditors did not perform auditing procedures with respect to certified investment information, except for comparing such certified investment information included in the accompanying financial statements and supplemental schedule.

4. FAIR VALUE MEASUREMENT

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. *Fair Value Measurement* establishes a hierarchy of the valuation techniques based upon whether the inputs to those valuation techniques reflect assumptions other market participants would use based upon market data obtained from independent sources (also referred to as observable inputs). The fair value hierarchy is 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.

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Notes to Financial Statements
December 31, 2022 and 2021

4. FAIR VALUE MEASUREMENT (Continued)

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.

Following is a description of the valuation methodology used for assets measured at fair value:

Mutual funds - Valued at the daily closing price as reported by the funds. 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 and, accordingly, these investments are valued using observable inputs. The mutual funds held by the Plan are deemed to be actively traded.

There has been no change in the methodology used at December 31, 2022 and 2021.

The preceding method described may produce a fair value calculation that may not be indicative of net realizable value or reflective of future values. Furthermore, although the Plan believes its valuation method is appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

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

<u>Description</u>	<u>2022</u>			
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Mutual funds, at fair value	<u>\$ 11,024,135</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 11,024,135</u>

<u>Description</u>	<u>2021</u>			
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Mutual funds, at fair value	<u>\$ 9,275,892</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 9,275,892</u>

RHYTHM PHARMACEUTICALS INC. 401K PLAN

Notes to Financial Statements
December 31, 2022 and 2021

5. PLAN TERMINATION

Although it has not expressed any intent to do so, the Company has the right under the Plan to terminate the Plan subject to the provisions of ERISA. In the event of plan termination, all accrued benefits shall be paid to participants in accordance with the provisions of the Plan.

6. PARTY-IN-INTEREST TRANSACTIONS

Section 3(14) of ERISA defines a party-in-interest to include, among others, fiduciaries or employees of the Plan, any person who provides services to the Plan or an employer whose employees are covered by the Plan. Accordingly, notes receivable from participants and transactions with investment funds managed and held by the qualified institution are considered party-in-interest transactions. During 2022, the Plan paid the qualified institution and investment advisor administrative expenses totaling \$23,622.

7. TAX STATUS

The Plan Sponsor has obtained an opinion dated June 30, 2020, in which the IRS stated that the restated prototype plan document was in compliance with applicable requirements of the IRC. The Plan Administrator timely adopted the restated prototype plan. Although the Plan has been amended since receiving the opinion letter, the Plan Administrator believes that the Plan is currently being operated in accordance with the IRC.

U.S. GAAP requires Plan management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain tax position that more-likely-than-not would not be sustained upon examination by the applicable authorities. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

8. RISKS AND UNCERTAINTIES

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

9. RECONCILIATION TO FORM 5500

The following is a reconciliation of net assets available for benefits per the financial statements to the IRS Form 5500 as of December 31, 2021:

Net assets available for benefits per the financial statements	\$ 9,720,704
Less employer contribution receivable	<u>(401,599)</u>
Net assets available for benefits per the IRS Form 5500	<u>\$ 9,319,105</u>

The following is a reconciliation of changes in net assets available for benefits per the financial statements to the IRS Form 5500 as of December 31, 2022:

Changes in net assets available for benefits per the financial statements	\$ 1,577,190
Plus employer contribution receivable	<u>401,599</u>
Changes in net assets available for benefits per the IRS Form 5500	<u>\$ 1,978,789</u>

RHYTHM PHARMACEUTICALS INC. 401K PLAN
PLAN NO. 001, FEDERAL I.D. #46-2159271

Schedule of Assets Held at End of Year
December 31, 2022

(a)	(b)	(c)	(d)	(e)
Party-In-Interest	Identity of Issue, Borrower, Lessor, or Similar Party	Description of Investments, Including Maturity Date, Rate of Interest, Collateral, Par, or Maturity Value	Cost	Current Value
*	Fidelity Freedom Index 2035 Fund Investor Class	Mutual Fund	**	\$ 1,573,102
*	Fidelity Freedom Index 2045 Fund Investor Class	Mutual Fund	**	1,237,589
	Vanguard 500 Index Fund Admiral Shares	Mutual Fund	**	1,226,353
*	Fidelity Freedom Index 2050 Fund Investor Class	Mutual Fund	**	933,180
	Vanguard Balanced Index Fund Admiral Shares	Mutual Fund	**	623,933
*	Fidelity Freedom Index 2030 Fund Investor Class	Mutual Fund	**	602,365
*	Fidelity Freedom Index 2025 Fund Investor Class	Mutual Fund	**	596,795
*	Fidelity Freedom Index 2040 Fund Investor Class	Mutual Fund	**	519,005
*	Fidelity Freedom Index 2055 Fund Investor Class	Mutual Fund	**	477,659
	Vanguard Extended Market Index Fund Admiral Shares	Mutual Fund	**	329,296
	Vanguard Total Stock Market Index Fund Admiral Shares	Mutual Fund	**	286,562
	MFS Value Fund Class R6	Mutual Fund	**	269,962
*	Fidelity Freedom Index 2020 Fund Investor Class	Mutual Fund	**	206,131
	Vanguard Mid-Cap Growth Index Fund Admiral Shares	Mutual Fund	**	203,150
	DFA Emerging Markets Core Equity Portfolio Institutional Class	Mutual Fund	**	195,707
	Hartford Core Equity Fund Class R6	Mutual Fund	**	188,186
	Vanguard Developed Markets Index Fund Admiral Shares	Mutual Fund	**	178,937
	Vanguard Small-Cap Index Fund Admiral Shares	Mutual Fund	**	178,690
	Vanguard Federal Money Market Fund	Mutual Fund	**	175,375
*	Fidelity Freedom Index 2060 Fund Investor Class	Mutual Fund	**	169,289
	Vanguard Intermediate-Term Bond Index Fund Admiral Shares	Mutual Fund	**	160,016
	Victory Sycamore Established Value Fund Class R6	Mutual Fund	**	151,143
	MFS International Growth Fund Class R6	Mutual Fund	**	118,890
	PGIM Global Total Return R6	Mutual Fund	**	103,305
	DFA International Core Equity I	Mutual Fund	**	74,376
	Vanguard Explorer Fund Admiral Shares	Mutual Fund	**	59,916
	DFA Global Real Estate Securities Portfolio	Mutual Fund	**	50,448
	Vanguard Small-Cap Value Index Fund Admiral Shares	Mutual Fund	**	43,448
*	Fidelity Freedom Index 2015 Fund Investor Class	Mutual Fund	**	24,003
	Vanguard Short-Term Investment-Grade Fund Admiral Shares	Mutual Fund	**	22,590
	DFA Inflation-Protected Securities Portfolio	Mutual Fund	**	21,949
	DFA Intermediate Government Fixed Income Portfolio Institutional Class	Mutual Fund	**	21,804
*	Fidelity Freedom Index 2065 Fund Investor Class	Mutual Fund	**	981
*	Notes receivable from participants	Interest rates ranging from 4.25% to 7.25%, maturing through May 2027	-	88,461
				<u>\$ 11,112,596</u>
*	Party-In-Interest			
**	The cost of participant-directed investments is not required to be disclosed.			