

## OTCQB Certification

I, Richard T Schumacher, President & CEO of Pressure BioSciences, Inc. ("the Company"), certify that:

1. The Company is registered or required to file periodic reporting with the SEC or is exempt from SEC registration as indicated below (mark the box below that applies with an "X"):  
  

☐ Company is registered under Section 12(g) of the Exchange Act

☐ Company is relying on Exchange Act Rule 12g3-2(b)

☐ Company is a bank that reports to a Bank Regulator under Section 12(i) of the Exchange Act

☐ Company is a bank that is non-SEC reporting but is current in its reporting to a Banking Regulator

☒ Company is reporting under Section 15(d) of the Exchange Act.

☐ Company is reporting under the Alternative Reporting Company Disclosure Guidelines

☐ Company is reporting under Regulation A (Tier 2)

☐ Other (describe) \_\_\_\_\_
2. The Company is current in its reporting obligations as of the most recent fiscal year end and any subsequent quarters, and such information has been posted either on the SEC's EDGAR system or the OTC Disclosure & News Service, as applicable.
3. The company is duly organized, validly existing and in good standing under the laws of Massachusetts in which the Company is organized or does business.
4. The share information below is for the primary OTCQB traded security as of the latest practicable date:

Trading Symbol		<u>PBIO</u>
The data in this chart is as of:		<u>12/31/2021</u>
Shares Authorized	(A)	<u>100000000</u>
Total Shares Outstanding	(B)	<u>8196984</u>
Number of Restricted Shares <sup>1</sup>	(C)	<u>2160192</u>
Unrestricted Shares Held by Officers, Directors, 10% Control Persons & Affiliates	(D)	<u>0</u>
Public Float: <i>Subtract Lines C and D from Line B</i>	(E)	<u>6036792</u>
% Public Float: <i>Line E Divided by Line B (as a %)</i> <sup>2</sup>	(F)	<u>74</u>
Number of Beneficial Shareholders of at least 100 shares <sup>3</sup>	(G)	<u>1465</u>

<sup>1</sup> Restricted Shares means securities that are subject to resale restrictions for any reason. Your transfer agent should be able to provide the total number of restricted securities.

<sup>2</sup> Public Float means the total number of unrestricted shares not held directly or indirectly by an officer, director, any person who is the beneficial owner of more than 10 percent of the total shares outstanding (a "10 percent Control Person"), or any Affiliates thereof, or any Family Members of officers, directors, and control persons. Family Member shall mean a Person's spouse, parents, children, and siblings, whether by blood, marriage or adoption, or anyone residing in such Person's home. OTCQB traded securities are required to have a freely traded public float of at least 10% of the shares outstanding unless an exemption applies.

<sup>3</sup> Beneficial Shareholder means any person who, directly or indirectly has or shares voting power of such security or investment power, which includes the power to dispose, or to direct the disposition of, such security. OTCQB traded securities are required to have at least 50 beneficial shareholders unless an exemption applies.

## 5. Convertible Debt:

The following is a complete list of all promissory notes, convertible notes, convertible debentures, or any other debt instruments that may be converted into a class of the issuer's equity securities that were issued or outstanding at any time during the last complete fiscal year and any interim period between the last fiscal year end and the date of this OTCQB Certification:

☐ Check this box if there were no promissory notes, convertible notes, or other convertible debt arrangements issued or outstanding at any point during this time period.

Date of Note Issuance	Principal Amount at Issuance (\$)	Outstanding Balance (\$) <sup>4</sup>	Maturity Date	Conversion Terms (e.g., pricing mechanism for determining conversion of instrument to shares)	# Shares Converted to Date	# of Potential Shares to be Issued Upon Conversion <sup>5</sup>	Name of Noteholder (entities must have individual with voting / investment control disclosed). <sup>6</sup>	Reason for Issuance (e.g., Loan, Services, etc.)
8/17/19	469,187	469,187	3/31/22	\$2.50/share	0		Auctus Fund – Mr. a. Sollami	Loan
10/24/19	272,500	272,500	3/31/22	\$2.50/share	0		LG Capital – Mr. E. Safeigh	Loan
7/19/21	306,250	735,000	7/19/22	\$2.50/share	0		622/NCorner/Target Capital	Loan
Various	1,180,990.71	9,393,150	Various	\$2.50/share	0		CSS Capital	Loan
Total Outstanding Balance:			Total Shares:					

Use the space below to provide any additional details, including footnotes to the table above:

See pages of our 2021 10K attached

6. The following is a complete list of any law firm(s) and attorney(s) that acted as the Company's primary legal counsel in preparing its most recent annual report. Include the firm and attorney(s) name if outside counsel, or name and title if internal counsel. (If no attorney assisted in putting together the disclosure, identify the person(s) who prepared the disclosure and their relationship to the company.) Please also identify any other attorney, if different than the primary legal counsel, that assisted the company during the prior fiscal year on any matter including but not limited to, preparation of disclosure, press releases, consulting services, corporate action or merger assistance, etc.

Lucosky Brookman LLP

<sup>4</sup> The Outstanding Balance is to include accrued interest.

<sup>5</sup> The total number of shares that can be issued upon full conversion of the Outstanding Balance. The number should not factor any "blockers" or limitations on the percentage of outstanding shares that can be owned by the Noteholder at a particular time. For purposes of this calculation, please use the current market pricing (e.g. most recent closing price, bid, etc.) of the security if conversion is based on a variable market rate.

<sup>6</sup> International Reporting Companies may elect not to disclose the names of noteholders who are non-affiliates of the company. "Affiliate" is a Person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, an officer, a director, or a shareholder beneficially owning 10 percent or more of the Company's outstanding shares.

7. The following is a complete list of third-party providers, including firm names and addresses, and primary contact names, engaged by the Company, its officers, directors or controlling shareholders, at any time during the last complete fiscal year and any interim period between the last fiscal year end and the date of this OTCQB Certification, to provide investor relations services, public relations services, marketing, brand awareness, consulting, stock promotion, or any other related services to the Company. Please describe the services provided by each third-party provider listed below. If none, please state "None".

Computershare	Transfer Agent
Malone Bailey	Auditors
Plum Tree	Investor Relations
Tradigital Marketing	Investor Relations
FN Media Group	Investor Relations
J. Charles	Investor Relations

8. Officers, Directors and 5% Control Persons:

The following is a complete list of Officers, Directors and 5% Control Persons (control persons are beneficial owners of five percent (5%) or more of any class of the issuer's equity securities), including name, address, and number of shares owned. Preferred shares, options, warrants that can be converted into common shares within the next 60 days should be included in the shareholdings listed below. **If any of the beneficial shareholders are corporate entities, provide the name and address of the person(s) owning or controlling such corporate entities.**

Name (First, Last)	City and State (and Country if outside US)	Number of Shares Owned (list common, preferred, warrants and options separately)	Percentage of Class of Shares Owned
Richard T Schumacher	Taunton, MA	426429	5.5
Jeffrey N Peterson	Sunnyvale, CA	274284	3.6
Kevin A Pollack	South Easton, MA	113373	1.8
Vito J Manjiardi	San Rafeal CA	110956	1.5
Michael S Urdea	Alamo, CA	92116	1.2
Edmund Y Ting	Kent, WA	80870	1.1
Alexander V Lazarev	Woburn, MA	121835	1.6

Use the space below to provide any additional details, including conversion terms of any class of the issuer's equity securities:

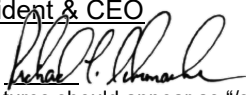
See attachment of Proxy Page for details

9. Certification:

Date: 04/08/21

Name of Certifying CEO or CFO: Richard T Schumcaher

Title: President & CEO

Signature:   
(Digital Signatures should appear as "/s/ [OFFICER NAME]")

#### Battelle Memorial Institute

In December 2008, we entered into an exclusive patent license agreement with the Battelle Memorial Institute (“Battelle”). The licensed technology is the subject of a patent application filed by Battelle in 2008 and relates to a method and a system for improving the analysis of protein samples, including through an automated system utilizing pressure and a pre-selected agent to obtain a digested sample in a significantly shorter period of time than current methods, while maintaining the integrity of the sample throughout the preparatory process. In addition to royalty payments on net sales on “licensed products,” we are obligated to make minimum royalty payments for each year that we retain the rights outlined in the patent license agreement and we are required to have our first commercial sale of the licensed products within one year following the issuance of the patent covered by the licensed technology. After re-negotiating the terms of the contract in 2013, the minimum annual royalty was \$1,200 in 2014 and \$2,000 in 2015; the minimum royalties were \$3,000 in 2016, \$4,000 in 2017 and \$5,000 in 2018 and each calendar year thereafter during the term of the agreement.

#### Target Discovery Inc.

In March 2010, we signed a strategic product licensing, manufacturing, co-marketing, and collaborative research and development agreement with Target Discovery Inc. (“TDI”), a related party. Under the terms of the agreement, we have been licensed by TDI to manufacture and sell a highly innovative line of chemicals used in the preparation of tissues for scientific analysis (“TDI reagents”). The TDI reagents were designed for use in combination with our pressure cycling technology. The companies believe that the combination of PCT and the TDI reagents can fill an existing need in life science research for an automated method for rapid extraction and recovery of intact, functional proteins associated with cell membranes in tissue samples. We did not incur any royalty obligation under this agreement in 2021 or 2020.

In April 2012, we signed a non-exclusive license agreement with TDI to grant the non-exclusive use of our pressure cycling technology. We executed an amendment to this agreement on October 1, 2016 wherein we agreed to pay a monthly fee of \$1,400 for the use of a lab bench, shared space and other utilities, and \$2,000 per day for technical support services as needed. The agreement requires TDI to pay the Company a minimum royalty fee of \$60,000 in 2020 and \$60,000 in 2021. For the years ended December 31, 2020 and 2021, we reported expenses of \$82,800 and \$86,800, respectively for these arrangements.

#### *Severance and Change of Control Agreements*

Each of Mr. Schumacher, and Drs. Ting, and Lazarev, executive officers of the Company, are entitled to receive a severance payment if terminated by us without cause. The severance benefits would include a payment in an amount equal to one year of such executive officer’s annualized base salary compensation plus accrued paid time off. Additionally, the officer will be entitled to receive medical and dental insurance coverage for one year following the date of termination.

Each of these executive officers, other than Mr. Schumacher, is entitled to receive a change of control payment in an amount equal to one year of such executive officer’s annualized base salary compensation, accrued paid time off, and medical and dental coverage, in the event of their termination upon a change of control of the Company. In the case of Mr. Schumacher, this payment would be equal to two years of annualized base salary compensation, accrued paid time off, and two years of medical and dental coverage. The severance payment is meant to induce the aforementioned executives to remain in the employ of the Company, in general; and particularly in the occurrence of a change in control, as a disincentive to the control change.

### **(9) Convertible Debt and Other Debt**

#### Convertible Debt

On various dates during the year ended December 31, 2020, the Company issued convertible notes for net proceeds of approximately \$8.3 million which contained varied terms and conditions as follows: a) 6-12 month maturity date; b) interest rates of 10-18% per annum c) convertible to the Company’s common stock at issuance at a fixed rate of \$2.50. These notes were issued with shares of common stock or warrants to purchase common stock that were fairly valued at issuance dates. The aggregate relative fair value of the shares of common stock issued with the notes of \$214,419 was recorded as a debt discount to be amortized over the term of the notes. The aggregate relative fair value of the warrants issued with the notes of \$4.9 million was also recorded as a debt discount to be amortized over the term of the notes. We then computed the effective conversion price of the notes and recorded a BCF of \$1.8 million as a debt discount to be amortized over the term of the notes. Finally, we evaluated our convertible notes for derivative liability treatment on an on-going basis and have determined that all our notes did not qualify for derivative accounting treatment at December 31, 2020. In the year ended December 31, 2020 the amortization of debt discount on convertible notes was \$5,118,222.

On various dates during the year ended December 31, 2021, the Company issued convertible notes for net proceeds of approximately \$5.5 million which contained varied terms and conditions as follows: a) 6-12 month maturity date; b) interest rates of 10-18% per annum and c) convertible to the Company’s common stock at issuance at fixed rates of \$2.50 and \$3.00 or at a variable conversion rates upon the Company’s up-listing to NASDAQ or NYSE or an event of default. These notes were issued with shares of common stock or warrants to purchase common stock that were fair valued at issuance dates. The aggregate relative fair value of the shares of common stock issued with the notes of \$646,718 was recorded as a debt discount to be amortized over the term of the notes. The aggregate relative fair value of \$1.4 million for the warrants issued with the notes was recorded as a debt discount to be amortized over the term of the notes. We then computed the effective conversion price of the notes and recorded a BCF of \$1.3 million as a debt discount to be amortized over the term of the notes. Finally, we evaluated our convertible notes for derivative liability treatment on an on-going basis and have determined that all our notes did not qualify for derivative accounting treatment at December 31, 2021. In the year ended December 31, 2021 the amortization of debt discount on convertible notes was approximately \$6.7 million.

The specific terms of the convertible notes and outstanding balances as of December 31, 2021 are listed in the tables below.

The specific terms of the convertible notes and outstanding balances as of December 31, 2021 are listed in the tables below.									
			Outstanding	Original			Deferred	Discount for	
Inception Date	Term	Loan Amount	balance with	Issue	Interest	Conversion	Finance	conversion	
			OID	Discount	Rate	Price	Fees	feature and	
				(OID)				warrants/shares	
May 17, 2018 (1)(2)	12 months	\$ 380,000	\$ 166,703	\$ 15,200	8%	\$ 2.50	\$ 15,200	\$ 332,407	
January 3, 2019 (1)(4)	6 months	\$ 50,000	\$ 50,000	\$ 2,500	24%	\$ 7.50	\$ 2,500	\$ -	
June 4, 2019 (1)(2)	9 months	\$ 500,000	\$ 302,484	\$ -	8%	\$ 2.50	\$ 40,500	\$ 70,631	
July 19, 2019 (1) (2)	12 months	\$ 115,000	\$ 115,000	\$ -	4%	\$ 2.50	\$ 5,750	\$ 15,460	
September 27, 2019 (1) (2)	12 months	\$ 78,750	\$ 78,750	\$ -	4%	\$ 2.50	\$ 3,750	\$ 13,759	
October 24, 2019 (1) (2)	12 months	\$ 78,750	\$ 78,750	\$ -	4%	\$ 2.50	\$ 3,750	\$ -	
November 15, 2019 (1)	12 months	\$ 385,000	\$ 320,000	\$ 35,000	10%	\$ 2.50	\$ 35,000	\$ 90,917	
January 2, 2020 (1)	12 months	\$ 330,000	\$ 330,000	\$ 30,000	10%	\$ 2.50	\$ 30,000	\$ 91,606	
January 24, 2020 (1)	12 months	\$ 247,500	\$ 247,500	\$ 22,500	10%	\$ 2.50	\$ 22,500	\$ 89,707	
January 29, 2020 (1)	12 months	\$ 363,000	\$ 363,000	\$ 33,000	10%	\$ 2.50	\$ 33,000	\$ 297,000	
February 12, 2020 (1)	12 months	\$ 275,000	\$ 275,000	\$ 25,000	10%	\$ 2.50	\$ 25,000	\$ 225,000	
February 19, 2020 (1)	12 months	\$ 165,000	\$ 165,000	\$ 15,000	10%	\$ 2.50	\$ 15,000	\$ 135,000	
March 11, 2020 (1)	12 months	\$ 330,000	\$ 330,000	\$ 30,000	10%	\$ 2.50	\$ 30,000	\$ 232,810	
March 13, 2020 (1)	12 months	\$ 165,000	\$ 165,000	\$ 15,000	10%	\$ 2.50	\$ 15,000	\$ 60,705	
March 26, 2020 (1)	12 months	\$ 111,100	\$ 111,100	\$ 10,100	10%	\$ 2.50	\$ 10,100	\$ 90,900	
April 8, 2020 (1)	12 months	\$ 276,100	\$ 276,100	\$ 25,100	10%	\$ 2.50	\$ 25,000	\$ 221,654	
April 17, 2020 (1)	12 months	\$ 143,750	\$ 143,750	\$ 18,750	10%	\$ 2.50	\$ -	\$ 96,208	
April 30, 2020 (1)	12 months	\$ 546,250	\$ 546,250	\$ 71,250	10%	\$ 2.50	\$ 47,500	\$ 427,500	
May 6, 2020 (1)	12 months	\$ 460,000	\$ 460,000	\$ 60,000	10%	\$ 2.50	\$ 40,000	\$ 360,000	
May 18, 2020 (1)	12 months	\$ 546,250	\$ 221,250	\$ 46,250	10%	\$ 2.50	\$ 35,500	\$ 439,500	
June 2, 2020 (1)	12 months	\$ 902,750	\$ 652,750	\$ 92,750	10%	\$ 2.50	\$ 58,900	\$ 708,500	
June 12, 2020 (1)	12 months	\$ 57,500	\$ 57,500	\$ 7,500	10%	\$ 2.50	\$ 5,000	\$ 45,000	
June 22, 2020 (1)	12 months	\$ 138,000	\$ 138,000	\$ 18,000	10%	\$ 2.50	\$ 12,000	\$ 108,000	
July 7, 2020 (1)	12 months	\$ 586,500	\$ 586,500	\$ 76,500	10%	\$ 2.50	\$ 51,000	\$ 400,234	
July 17, 2020 (1)	12 months	\$ 362,250	\$ 362,250	\$ 47,250	10%	\$ 2.50	\$ 31,500	\$ 185,698	
July 29, 2020 (1)	12 months	\$ 345,000	\$ 345,000	\$ 45,000	10%	\$ 2.50	\$ 30,000	\$ 241,245	
July 21, 2020 (1) (5)	12 months	\$ 115,000	\$ 115,000	\$ 15,000	10%	\$ 2.50	\$ 10,000	\$ 24,875	
August 14, 2020 (1)	12 months	\$ 762,450	\$ 462,450	\$ 69,450	10%	\$ 2.50	\$ 66,300	\$ 580,124	
September 10, 2020 (1)	12 months	\$ 391,000	\$ 391,000	\$ 51,000	10%	\$ 2.50	\$ 34,000	\$ 231,043	
September 21, 2020 (1) (5)	12 months	\$ 345,000	\$ 345,000	\$ 45,000	10%	\$ 2.50	\$ 30,000	\$ 66,375	
September 23, 2020 (1) (5)	12 months	\$ 115,000	\$ 15,000	\$ 15,000	10%	\$ 2.50	\$ 10,000	\$ 20,500	
September 25, 2020 (1) (5)	12 months	\$ 115,000	\$ 115,000	\$ 15,000	10%	\$ 2.50	\$ -	\$ 19,125	
December 3, 2020 (1)	12 months	\$ 299,000	\$ 299,000	\$ 39,000	10%	\$ 2.50	\$ 26,000	\$ 197,882	
October 22, 2020 (1) (5)	12 months	\$ 115,000	\$ 115,000	\$ 15,000	10%	\$ 2.50	\$ 10,000	\$ 18,875	
February 17, 2021 (1)	12 months	\$ 230,000	\$ 230,000	\$ 30,000	10%	\$ 2.50	\$ 20,000	\$ 180,000	
March 23, 2021 (1)	12 months	\$ 55,000	\$ 55,000	\$ 5,000	10%	\$ 2.50	\$ -	\$ 36,431	
May 24, 2021(1)	6 months	\$ 54,625	\$ 4,625	\$ 7,125	12%	\$ 2.50	\$ -	\$ -	
May 6, 2021	12 months	\$ 402,500	\$ 402,500	\$ 52,500	10%	\$ 2.50	\$ 35,000	\$ 312,551	
June 17, 2021	12 months	\$ 230,000	\$ 230,000	\$ 30,000	10%	\$ 2.50	\$ 20,000	\$ 144,760	
June 25, 2021	12 months	\$ 977,500	\$ 977,500	\$ 127,500	10%	\$ 2.50	\$ -	\$ 773,802	
May 20, 2021	12 months	\$ 180,000	\$ 30,000	\$ 30,000	10%	\$ 2.50	\$ 15,000	\$ 25,824	
June 3, 2021	6 months	\$ 50,000	\$ 50,000	\$ 1,500	12%	\$ 2.50	\$ -	\$ 7,948	
June 28, 2021	12 months	\$ 350,000	\$ 350,000	\$ 35,000	12%	(6)	\$ 22,750	\$ 267,250	
July 3, 2021	12 months	\$ 115,000	\$ 115,000	\$ 15,000	10%	\$ 2.50	\$ 10,000	\$ 90,000	
July 1, 2021	6 months	\$ 260,000	\$ 260,000	\$ 10,000	12%	\$ 2.50	\$ -	\$ 89,640	
July 6, 2021	6 months	\$ 125,000	\$ 125,000	\$ -	12%	\$ 2.50	\$ -	\$ 42,031	
July 6, 2021	6 months	\$ 125,000	\$ 125,000	\$ -	12%	\$ 2.50	\$ -	\$ 42,031	
July 15, 2021 (1)	6 months	\$ 100,000	\$ 100,000	\$ 5,000	12%	(7)	\$ -	\$ 57,716	
July 16, 2021	6 months	\$ 50,000	\$ 50,000	\$ 2,000	12%	\$ 3.00	\$ -	\$ 40,806	
July 16, 2021 (3)	6 months	\$ 306,250	\$ 306,250	\$ 56,250	(3)	(8)	\$ 22,500	\$ 227,500	
July 16, 2021 (3)	6 months	\$ 306,250	\$ 306,250	\$ 56,250	(3)	(8)	\$ 12,500	\$ 237,500	
July 16, 2021 (3)	6 months	\$ 122,500	\$ 122,500	\$ 22,500	(3)	(8)	\$ 5,000	\$ 95,000	
August 31, 2021 (1)	6 months	\$ 189,750	\$ 189,750	\$ 24,750	10%	(9)	\$ 16,500	\$ 148,500	
Sept. 8, 2021	8 months	\$ 78,000	\$ 78,000	\$ 3,000	12%	(7)	\$ -	\$ 40,449	
Sept. 10, 2021	8 months	\$ 100,000	\$ 100,000	\$ 4,000	12%	(7)	\$ -	\$ 43,520	
Sept. 15, 2021 (1)	6 months	\$ 250,000	\$ 250,000	\$ 12,500	12%	(7)	\$ -	\$ 108,801	
Sept. 16, 2021	6 months	\$ 250,000	\$ 250,000	\$ 12,500	12%	(7)	\$ -	\$ 112,337	
Sept. 24, 2021	8 months	\$ 125,000	\$ 125,000	\$ 6,250	12%	(7)	\$ -	\$ 61,876	
Sept. 15, 2021	6 months	\$ 250,000	\$ 250,000	\$ 37,500	12%	(7)	\$ 30,000	\$ -	
October 21, 2021 (5)	12 months	\$ 189,750	\$ 189,750	\$ 24,750	12%	\$ 2.50	\$ 16,500	\$ 87,332	
November 1, 2021 (5)	12 months	\$ 189,750	\$ 189,750	\$ 24,750	12%	\$ 2.50	\$ -	\$ 96,991	
December 7, 2021	12 months	\$ 169,500	\$ 169,500	\$ 19,500	12%	\$ (10)	\$ 3,750	\$ -	
			\$ 14,376,462	\$ 1,661,225				\$ 1,039,250	\$ 9,508,836

- (1) The Note is past due. The Company and the lender are negotiating in good faith to extend the loan.
- (2) The Company and lender have agreed to the extension of the Standstill and Forbearance agreements (as described below).
- (3) Note is secured by the assets of the Company's subsidiary, PBI Agrochem, Inc. and Interest rate is, 18.4% OID.
- (4) During the year ended December 31, 2020 the Company entered into Rate Modification Agreements with these lenders. In these agreements five lenders agreed to reduce their interest rate and were granted the right to convert loans using a variable conversion price if more than one other variable rate lender converted at a variable rate.
- (5) The Company has agreed to issue shares of its common stock to lenders if their notes are not repaid by a defined date.
- (6) Loan is not convertible until 180 days from the date of issuance of the Note and following an Event of Default will be convertible at the lesser of \$2.50 per share or 90% of the lowest trading price over the previous 20 days. The loan is guaranteed by the Company's Chief Executive Officer, but the lender may only enforce this

guarantee after certain conditions have been met, specifically after (i) the occurrence of an Event of Default (as defined in the Note), (ii) the failure of the Company to cure the Default in 10 business days, and (iii) a failure by the Company to issue, or cause to be issued, shares of its common stock upon submission by the lender of a notice of conversion.

- (7) Notes can be voluntarily converted before maturity at \$2.50 per share or mandatorily converted on up-list at lower of \$2.50 or up-list price.
- (8) Notes can be converted at the lesser of \$2.50 per share or 25% discount to the opening price of the Company's first day of trading on either Nasdaq or NYSE. In addition, if the Company fails to pay the Note in cash on maturity date, the conversion price will be adjusted to the lesser of original conversion price or the product of the VWAP of the common stock for the 5 trading dates immediately prior to the maturity date multiplied by 0.75.
- (9) Conversion price of this note is \$2.50 and will be adjusted to, upon an Event of Default, the lower of (i) the Conversion Price or (ii) a 25% discount to the 5-day average VWAP of the stock prior to Default. Additionally, if an up-list to a national exchange occurs while this Note is outstanding, the Conversion Price shall be changed to the lower of (i) the Conversion Price or (ii) a 25% discount to the up-list price.
- (10) Loan is convertible, upon an event of default, at the lowest closing bid price for the Company's common stock for the five trading days prior to conversion.

As of December 31, 2021 one lender holds approximately \$9.4 million of the \$14.4 million convertible notes outstanding.

For the year ended December 31, 2021, the Company recognized amortization expense related to the debt discounts indicated above of \$6,689,238. The unamortized debt discounts as of December 31, 2021 related to the convertible debentures amounted to \$1,536,649. For the year ended December 31, 2020, the Company recognized amortization expense related to the debt discounts indicated above \$5,118,222. The unamortized debt discounts as of December 31, 2020 related to the convertible debentures and other convertible notes amounted to \$3,948,167.

Beneficial ownership has been determined in accordance with the rules of the Securities and Exchange Commission ("SEC") and is calculated based on 7,391,391 shares of our Common Stock issued and outstanding as of November 10, 2021. Shares of Common Stock subject to options, warrants, preferred stock or other securities convertible into Common Stock that are currently exercisable or convertible, or exercisable or convertible within 60 days of November 10, 2021 are deemed outstanding for computing the ownership percentage of the person holding the option, warrant, preferred stock, or convertible security but are not deemed outstanding for computing the ownership percentage of any other person.

Except as indicated by the footnotes below, the Company believes, based on the information furnished to it, that the persons and entities named in the table below have sole voting and investment power with respect to all shares of Common Stock that they beneficially own.

<b>Name of Beneficial Owner</b>	<b>Amount and Nature of Beneficial Ownership</b>	<b>Percent of Class</b>
Richard T. Schumacher(1)	426,429	5.5%
Jeffrey N. Peterson(2)	274,284	3.6%
Kevin A. Pollack(3)	133,373	1.8%
Michael S. Urdea(4)	110,956	1.5%
Vito J. Mangiardi(5)	92,116	1.2%
Edmund Y. Ting, Ph.D.(6)	80,870	1.1%
Alexander V. Lazarev, Ph.D.(7)	121,835	1.6%
All Executive Officers and Directors as a Group (7)	1,239,863	14.6%

- 1) Includes (i) 324,501 shares of Common Stock issuable upon exercise of options; (ii) 32,091 shares of Common Stock issuable upon the exercise of warrants; (iii) 32,091 shares of common stock issuable upon conversion of Series AA Convertible Preferred Stock; and (iv) 37,746 shares of Common Stock. Does not include 672 shares of Common Stock held by Mr. Schumacher's minor son as Mr. Schumacher's wife exercises all voting and investment control over such shares.
- 2) Includes (i) 120,312 shares of Common Stock issuable upon exercise of options; (ii) 65,200 shares of Common Stock issuable upon the exercise of warrants; (iii) 65,200 shares of common stock issuable upon conversion of Series AA Convertible Preferred Stock; and (iv) 23,572 shares of Common Stock.
- 3) Includes (i) 70,408 shares of Common Stock issuable upon exercise of options; (ii) 20,534 shares of Common Stock issuable upon exercise of warrants; (iii) 20,534 shares of common stock issuable upon conversion of Series AA Convertible Preferred Stock; and (iv) 21,897 shares of Common Stock.
- 4) Includes (i) 52,072 shares of Common Stock issuable upon exercise of options; (ii) 20,200 shares of Common Stock issuable upon exercise of warrants; (iii) 20,200 shares of common stock issuable upon conversion of Series AA Convertible Preferred Stock; and (iv) 18,484 shares of Common Stock.
- 5) Includes (i) 70,408 shares of Common Stock issuable upon exercise of options; (ii) 4,400 shares of Common Stock issuable upon exercise of warrants; (iii) 4,400 shares of common stock issuable upon conversion of Series AA Convertible Preferred Stock; and (iv) 12,908 shares of Common Stock.
- 6) Includes (i) 80,055 shares of Common Stock issuable upon exercise of options and (ii) 815 shares of Common Stock.
- 7) Includes (i) 68,505 shares of Common Stock issuable upon exercise of options; (ii) 26,460 shares of Common Stock issuable upon exercise of warrants; (iii) 26,460 shares of common stock issuable upon conversion of Series AA Convertible Preferred Stock; and (iv) 410 shares of Common Stock.
- 8) Includes (i) 786,261 shares of Common Stock issuable upon exercise of options; (ii) 168,885 shares of Common Stock issuable upon the exercise of warrants; (iii) 168,885 shares of Common Stock issuable upon conversion of Series AA Convertible Preferred Stock and (iv) 115,832 shares of Common Stock.