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

Washington, D.C. 20549

FORM S-3 REGISTRATION STATEMENT UNDER

THE SECURITIES ACT OF 1933

Pulse Biosciences, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 46-5696597 (I.R.S. Employer Identification No.)

601 Brickell Key Drive, Suite 1000 Miami, FL 33131 (510) 906-4600

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Burke T. Barrett President and Chief Executive Officer Pulse Biosciences, Inc. 601 Brickell Key Drive, Suite 1000 Miami, FL 33131 (510) 906-4600

(Name, address, including zip code, and telephone number, including area code, of agent for service)

With copies to:

Kenneth B. Stratton, Esq. General Counsel Pulse Biosciences, Inc. 3957 Point Eden Way Hayward, CA 94545 (510) 906-4600 Adam Finerman, Esq. Baker & Hostetler LLP 45 Rockefeller Plaza New York, NY 10111 (212) 589-4233

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \boxtimes 333-278322

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \Box

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. \Box

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. \Box

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer
Accelerated filer
Image: Company of the second sec

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

The Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

EXPLANATORY NOTE AND INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

Pursuant to Rule 462(b) under the Securities Act of 1933, as amended, Pulse Biosciences, Inc. (the "Registrant") is filing this Registration Statement on Form S-3 (this "Registration Statement") with the Securities and Exchange Commission (the "Commission"). This Registration Statement relates to the public offering of securities contemplated by the Registration Statement on Form S-3 (File No. 333-278322) (the "Prior Registration Statement"), which the Registrant filed with the Commission on March 28, 2024, and which the Commission declared effective on April 8, 2024.

The Registrant is filing this Registration Statement for the sole purpose of increasing the aggregate amount of securities offered by the Registrant by a proposed additional aggregate offering price of \$10,000,000. The additional securities that are being registered for issuance and sale are in an amount and at a price that together represent no more than 20% of the maximum aggregate offering price of unsold securities under the Prior Registration Statement. The information set forth in the Prior Registration Statement and all exhibits to the Prior Registration Statement are hereby incorporated by reference into this Registration Statement.

The required opinion and consents are listed on the Exhibit Index below and filed herewith or incorporated by reference herein.

PART II INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 16. Exhibits.

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Exhibit No.	Description
5.1	Opinion of Baker & Hostetler LLP
23.1	Consent of Deloitte & Touche LLP, an independent registered public accounting firm for the Registrant.
23.2	Consent of Baker & Hostetler LLP (included in Exhibit 5.1)
24.1	Powers of Attorney (incorporated by reference to Exhibit 24.1 to the Prior Registration Statement)

107 <u>Filing Fee Table</u>

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Hayward, State of California, on July 15, 2024.

PULSE BIOSCIENCES, INC.

	By: /s/ Burke T. Barrett Name: Burke T. Barrett Title: President and Chief Executive Officer					
Name	Title	Date				
/s/ Burke T. Barrett Burke T. Barrett	President and Chief Executive Officer (Principal Executive and Principal Financial Officer)	July 15, 2024				
* Robert W. Duggan	Executive Chairman of the Board of Directors	July 15, 2024				
* Darrin R. Uecker	Chief Technology Officer and Director	July 15, 2024				
* Manmeet S. Soni	Director	July 15, 2024				
* Richard A. van den Broek	Director	July 15, 2024				
* Mahkam Zanganeh	Director	July 15, 2024				
/s/ Timothy H. Mitsuoka Timothy H. Mitsuoka	Corporate Controller (Principal Accounting Officer)	July 15, 2024				

Kenneth B. Stratton Attorney-in-fact

BakerHostetler

Baker&Hostetler LLP

45 Rockefeller Plaza New York, NY 10111

T 212.589.4200 F 212.589.4201 www.bakerlaw.com

July 15, 2024

Pulse Biosciences, Inc. 601 Brickell Key Drive, Suite 1000 Miami, FL 33131

Ladies and Gentlemen:

We have acted as counsel to Pulse Biosciences, Inc., a Delaware corporation (the "*Company*"), in connection with the filing of the Company's Registration Statement on Form S-3 (the "*Registration Statement*") with the Securities and Exchange Commission (the "*Commission*") pursuant to Rule 462(b) of the Securities Act of 1933, as amended (the "*Act*"). The Registration Statement relates to the offer and sale from time to time of additional shares of the Company's common stock, par value \$0.001 per share (the "*Common Stock*"), up to a maximum aggregate amount of \$10,000,000 (the "*Shares*"), pursuant to an Equity Distribution Agreement, dated July 15, 2024, among the Company, Canaccord Genuity LLC and Needham & Company, LLC (the "*Distribution Agreement*"). The Registration Statement incorporates by reference the Registration Statement on Form S-3 (Registration No. 333-278322) (the "*Prior Registration Statement*"), which was declared effective on April 8 2024, including the prospectus which forms part of the Prior Registration Statement (the "*Prospectus*") and the supplements to the Prospectus referred to therein (each a "*Prospectus Supplement*").

We have examined such documents and such matters of fact and law as we deem necessary to render the opinions contained herein. In our examination, we have assumed, but have not independently verified, the genuineness of all signatures, the conformity to original documents of all documents submitted to us as certified, facsimile or other copies, and the authenticity of all such documents. As to questions of fact material to this opinion, we have relied on certificates or comparable documents of public officials and of officers and representatives of the Company.

For purposes of this opinion, we have assumed that:

- (a) the Registration Statement will remain effective at the time of issuance and sale of the Shares;
- (b) the Shares will be sold at prices and other terms authorized by the Company's Board of Directors or another duly authorized committee thereof; and
- (c) at the time of the issuance and sale of the Shares, a sufficient number of shares of Common Stock will remain authorized and available for issuance pursuant to the Company's Amended and Restated Certificate of Incorporation, as it then may be amended.

Atlanta	Chicago	Cincinnati	Cleveland	Columbus	Costa	Mesa	Dallas	Denver	Houston
Los Angeles	New York	Orlando	Philadelphia	San Franci	sco	Seattle	Washi	ngton, DC	Wilmington

Based on the foregoing, and subject to the qualifications stated herein, we are of the opinion that the Shares offered pursuant to the Registration Statement will be validly issued, fully paid and non-assessable.

The opinions expressed herein are limited to the General Corporation Law of the State of Delaware and we express no opinion as to the effect on the matters covered by this letter of the laws of any other jurisdiction.

We hereby consent to the filing of this letter as Exhibit 5.1 to the Registration Statement. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Commission.

Very truly yours,

/s/ Baker & Hostetler LLP

BAKER & HOSTETLER LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3MEF of our report dated March 28, 2024 relating to the consolidated financial statements of Pulse Biosciences, Inc. appearing in the Annual Report on Form 10-K of Pulse Biosciences, Inc. for the year ended December 31, 2023. We also consent to the reference to us under the heading "Experts" in the prospectus, which is part of this Registration Statement.

/s/ Deloitte & Touche LLP

San Francisco, California

July 15, 2024

Calculation of Filing Fee Tables

Form S-3 (Form Type)

Pulse Biosciences, Inc. (Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

	Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Equity	Common Stock, par value \$0.001 per share	457(o)	(1)	(1)	(1)		
	Unallocated (Universal) Shelf	Unallocated (Universal) Shelf	457(o)	(1)	(1)	\$10,000,000	0.00014760	\$1,476
Fees Previously Paid	_	_		_	_	_		_
	Total Offering Amounts					\$10,000,000		\$1,476
	Total Fees Previously Paid							
	Total Fee Offsets							
	Net Fee Due							\$1,476

(1) The Registrant previously registered the offer and sale of certain securities, including its common stock, par value \$0.001 per share, having a proposed maximum aggregate offering price of \$50,000,000 pursuant to Registration Statement on Form S-3 (File No. 333-278322), which was filed on March 28, 2024 and declared effective by the SEC on April 8, 2024 (the "Prior Registration Statement"). As of the date hereof, a balance of \$50,000,000 of such securities remains unsold under the Prior Registration Statement. In accordance with Rule 462(b) under the Securities Act of 1933, as amended, and General Instruction IV(A) of Form S-3, the Registrant is hereby registering the offer and sale of an additional \$10,000,000 of its shares of common stock. The additional amount of securities that is being registered for offer and sale represents no more than 20% of the maximum aggregate offering price of the remaining securities available to be sold under the Prior Registration Statement.