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

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant ☒
Filed by a Party other than the Registrant ☐

Check the appropriate box:

☐ Preliminary Proxy Statement
☐ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
☐ Definitive Proxy Statement
☒ Definitive Additional Materials
☐ Soliciting Material Pursuant to §240.14a-12

Ensysce Biosciences, Inc.
(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

☒ No fee required.

☐ Fee paid previously with preliminary materials.

☐ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.

Ensysce™ biosciences

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SUPPLEMENT TO THE PROXY STATEMENT
FOR THE ANNUAL MEETING OF SHAREHOLDERS OF ENSYSCE BIOSCIENCES, INC.
TO BE HELD ON DECEMBER 14, 2026

To Our Stockholders:

This is a supplement (the "*Supplement*") to the definitive proxy statement (the "*Proxy Statement*") of Ensysce Biosciences, Inc., a Delaware corporation (the "*Company*" or "*Ensysce*"), filed on Schedule 14A with the U.S. Securities and Exchange Commission on November 12, 2026, in connection with the solicitation of proxies by the Board of Directors (the "*Board*") for the Company's Annual Meeting of Stockholders (the "*Annual Meeting*") to be held virtually at https://www.cstproxy.com/ensysce/2026 on December 14, 2026, at 9:00 a.m. (Pacific time).

Except as described in this supplement, the information disclosed in the Proxy Statement remains in full force and effect. To the extent that information in this Supplement differs from information disclosed in the Proxy Statement, the information in this Supplement will apply.

Information about Proposal 2

Proposal 2 relates to adoption and approval of an amendment to the Company's third amended and restated certificate of incorporation to effect a reverse stock split of issued and outstanding shares of Ensysce common stock ("*Common Stock*") into a lesser number of outstanding shares, a "*Reverse Stock Split*," by a ratio of not less than one-for-ten and not more than one-for-thirty, with the exact ratio to be set within this range by the Board in its sole discretion without further approval or authorization of stockholders, in the form attached as *Annex C* to the Proxy Statement.

Ensysce is supplementing its response to Question 5. *What vote is required to approve each proposal and how are votes counted?* under "**Questions and Answers about the Annual Meeting and Voting**" by adding additional language into the next-to last-last paragraph of the response on page 3 of the Proxy Statement, as set forth below:

> The Common Stock is listed on Nasdaq, which has as one of its continued listing requirements that listed securities maintain a minimum bid price of not less than $1.00 per share. We are not in compliance with the minimum bid price and must effect Proposal 2 to raise the bid price above $1.00 to avoid delisting of our Common Stock on Nasdaq. Accordingly, regardless of the outcome on the other proposals, Proposal 2 is a necessary action for us to maintain our Nasdaq listing, although there can be no assurance that our Common Stock will trade above $1.00 per share if the Reverse Stock Split is effected. Separately, because Nasdaq has determined that approval of Proposal 1 constitutes a change of control under Nasdaq Listing Rules 5110(a) and 5635(b), we are required to satisfy Nasdaq's initial listing requirements prior to the conversion of the Series C Preferred Stock into shares of Common Stock. To satisfy the Nasdaq initial listing requirement of a minimum bid price of $4.00 per share, we may need to implement the Reverse Stock Split prior to the conversion of the Series C Preferred Stock. Accordingly, we may seek to conduct the Annual Meeting in stages, taking a vote first on the Reverse Stock Split (Proposal 2) and adjourning the Annual Meeting for the remaining proposals to allow time for the Reverse Stock Split to be implemented and for the Company to satisfy Nasdaq's initial listing requirements before reconvening the Annual Meeting.

Ensysce is supplementing its disclosure by adding additional language into the first paragraph under "**Reasons for the Reverse Stock Split**" on page 20 of the Proxy Statement, as set forth below:

> The Common Stock is listed on Nasdaq, which has as one of its continued listing requirements that listed securities maintain a minimum bid price of not less than $1.00 per share. As a result, the Reverse Stock Split is needed to regain compliance with the minimum bid price requirement, regardless of whether the other proposals in this Proxy Statement are considered. In addition, because Nasdaq has determined that the transactions described herein constitute a change of control under Nasdaq Listing Rules 5110(a) and 5635(b), the Company is required to satisfy Nasdaq's initial listing requirements prior to the conversion of the Series C Preferred Stock into shares of Common Stock. To satisfy the Nasdaq initial listing requirement of a minimum bid price of $4.00 per share, the Company may need to implement the Reverse Stock Split prior to the conversion of the Series C Preferred Stock. Accordingly, the Company may seek to conduct the Annual Meeting in stages, taking a vote first on the Reverse Stock Split (Proposal 2) and adjourning the Annual Meeting for the remaining proposals to allow time for the Reverse Stock Split to be implemented and for the Company to satisfy Nasdaq's initial listing requirements before reconvening the Annual Meeting.

Ensysce is supplementing its disclosure under "**Independence of Proposals**" on page 26 of the Proxy Statement by adding a new first paragraph, as set forth below:

> As stated above in the introduction to this proposal, by letter dated February 25, 2026, Nasdaq advised us that we were not in compliance with the minimum bid price requirement of $1.00 per share for our Common Stock and referenced a possible reverse stock split as a means to address the non-compliance. By letter dated August 25, 2026, Nasdaq granted us additional time, to February 22, 2027, to regain compliance with the minimum bid price requirement and advised us that Nasdaq has generally viewed a near-term reverse stock split as the only acceptable plan to regain compliance. We remain noncompliant with the minimum bid price and believe that we must effect this proposal (Proposal 2) to raise the bid price above $1.00 to avoid delisting of our Common Stock on Nasdaq. Accordingly, regardless of the vote on the other proposals in this Proxy Statement, including Proposal 1, we believe that approval of Proposal 2 is a necessary action to maintain our Nasdaq listing, although there can be no assurance that our Common Stock will trade above $1.00 per share or that we will meet other Nasdaq listing requirements if Proposal 2 is approved.

Further, Ensysce anticipates that, with respect to Proposal 2, brokers will have discretionary voting authority with respect to shares held in street name for their clients, even if the broker does not receive voting instructions from its client. This applies if your shares are held in street name and you do not provide voting instructions to your financial institution with respect to Proposal 2. The Proxy Statement stated that brokers had no discretionary authority with respect to Proposal 2.

This Supplement addressing Proposal 2 will have no impact on any of the other proposals described in the Proxy Statement. The Company will hold the Annual Meeting as previously scheduled, but it is anticipated that brokers will have discretionary authority to vote on Proposal 2.

Important Voting Matters

- The Record Date for determining the shareholders entitled to receive notice of, and to vote at, the Annual Meeting has been set and remains as the close of business on November 10, 2026.

- The Company will not make available or distribute a new proxy card, and shareholders do not need to submit new proxy or voting instructions because of this Supplement.

- Validly submitted proxies or voting instructions received and providing direction on the proposals to be considered at the Annual Meeting will remain valid, and will be voted on those proposals as directed (or, if no direction is made, "For" Proposal 1, "For" Proposal 2, "For" Proposal 3, "For" Proposal 4, "For" each Director Nominee in Proposal 5, "For" Proposal 6, "For" Proposal 7 with a recommendation of three years, "For" Proposal 8 And "For" Proposal 9.

- If you are a shareholder who has already submitted your proxy or voting instructions for the Annual Meeting, you do not need to resubmit new proxy or voting instructions unless you wish to change the vote you previously cast on the remaining proposals. You may change your vote at any time prior to the Annual Meeting.

- If you are a shareholder of record and have already submitted a proxy, you have the right to change your vote by revoking your proxy at any time before it is exercised at the Annual Meeting by:

    - Notifying the Corporate Secretary of the Company in writing;

    - Returning a later-dated, validly executed proxy card;

    - Entering a later-dated proxy by mail, telephone, facsimile, email or Internet; or

    - Voting electronically during the Annual Meeting.

Attendance at the virtual Annual Meeting will not revoke a proxy unless you vote electronically during the Annual Meeting.

If your shares are held by a broker, bank, trustee or other nominee (*i.e.*, in "street name"), please follow the instructions previously provided by your broker, bank, trustee or other nominee if you wish to change your vote on Proposal 2 or any of the remaining proposals.

- For further information regarding voting at the Annual Meeting, see "**Questions and Answers about the Annual Meeting and Voting**" in the Proxy Statement.

Important Information

The Company previously filed the Proxy Statement in connection with the Annual Meeting and made the proxy materials available to shareholders on November 13, 2026. Before making any voting decision, you are urged to read the Proxy Statement and all related proxy materials carefully. Copies of the Proxy Statement and proxy materials are available at **www.cstproxy.com/ensysce/2026**. Information on that website, other than the Proxy Statement and this Supplement, is not incorporated by reference into, and is not a part of, the Proxy Statement or this Supplement.