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

SCHEDULE 14A

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 under §240.14a-12

LIXTE BIOTECHNOLOGY HOLDINGS, 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 computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

☐ Fee paid previously with preliminary materials.
☐ Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

VOTE BY INTERNET
Go to http://www.vstocktransfer.com/proxy
Click on Proxy Voter Login and log-on using the below control number. Voting will be open until 11:59 p.m. (Eastern Time) December 7, 2025.

CONTROL #

VOTE BY MAIL
Mark, sign and date your proxy card and return it in the envelope we have provided.

ATTEND THE VIRTUAL MEETING
If you would like to attend the Annual Meeting, please register for the Annual Meeting of Stockholders, to be held at 1:00 p.m. Eastern Time, on December 8, 2025 via the following URL: **https://meeting.vstocktransfer.com/LIXTEDEC25**

* SPECIMEN *
1 MAIN STREET
ANYWHERE PA 99999-9999

Please Vote, Sign, Date and Return Promptly in the Enclosed Envelope.

Annual Meeting of Stockholders Proxy Card - Lixte Biotechnology Holdings, Inc.

▼ DETACH PROXY CARD HERE TO VOTE BY MAIL ▼

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" ALL DIRECTOR NOMINEES AND "FOR" ALL OTHER LISTED PROPOSALS.

(1) Election of Directors:

☐ FOR ALL NOMINEES LISTED BELOW (except as marked to the contrary below) ☐ WITHHOLD AUTHORITY TO VOTE FOR ALL NOMINEES LISTED BELOW

INSTRUCTION: TO WITHHOLD AUTHORITY TO VOTE FOR ONE OR MORE INDIVIDUAL NOMINEES STRIKE A LINE THROUGH THE NOMINEES' NAMES BELOW:

01 Geordan Pursglove 02 Jason Sawyer 03 Dr. Michael Holloway
04 Lourdes Felix 05 Guy Primus

(2) To ratify the appointment of Weinberg & Company, P.A. as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2025.

☐ FOR ☐ AGAINST ☐ ABSTAIN

(3) To approve a proposal to amend the Company's 2020 Stock Incentive Plan (the "2020 Plan") to increase the number of shares issuable thereunder by 2,750,000 shares, to a total of 3,500,000 shares.

☐ FOR ☐ AGAINST ☐ ABSTAIN

(4) To authorize the adjournment of the Annual Meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of one or more of the Proposals.

☐ FOR ☐ AGAINST ☐ ABSTAIN

Note: To transact other business that may properly come before the meeting and any postponement(s) or adjournment(s) thereof.

Date	**Signature**	**Signature, if held jointly**

Note: This proxy must be signed exactly as the name appears hereon. When shares are held jointly, each holder should sign. When signing as executor, administrator, attorney, trustee or guardian, please give full title as such. If the signer is a corporation, please sign full corporate name by a duly authorized officer, giving full title as such. If signer is a partnership, please sign in partnership name by an authorized person.

To change the address on your account, please check the box at right and indicate your new address. ☐

* SPECIMEN * AC:ACCT999 90.00

Lixte Biotechnology Holdings, Inc.
ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON DECEMBER 8, 2025
1:00 P.M. ET

Important Notice Regarding the Availability of Proxy Materials for the AGM:

Materials for this Meeting are available at:

https://ts.vstocktransfer.com/irhlogin/I-LIXTE

To Register for the Virtual Meeting, Please Visit:

https://meeting.vstocktransfer.com/LIXTEDEC25

▼ DETACH PROXY CARD HERE TO VOTE BY MAIL ▼

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The stockholder(s) hereby appoint(s) Geordan Pursglove and Peter Stazzone, either of them, as proxies, each with the power to appoint his substitute, and hereby authorize(s) them to represent and vote, as designated on the reverse side of this ballot, all of the shares of Common Stock of LIXTE BIOTECHNOLOGY HOLDINGS, INC. that the stockholder(s) is/are entitled to vote at the 2025 Annual Meeting of Stockholders to be held at 1:00 P.M. ET on December 8, 2025, virtually at https://meeting.vstocktransfer.com/LIXTEDEC25, and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.

Electronic Delivery of Future Proxy Materials: If you would like to reduce the costs incurred by Lixte Biotechnology Holdings, Inc. in mailing materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via email or the internet. To sign up for electronic delivery, please vote online and once your vote is cast you will have the option to enter your email information, or if submitting via Mail please provide your email address below and check here to indicate you consent to receive or access proxy materials electronically in future mailings for this issuer:

Email Address:______________________________ ☐

PLEASE INDICATE YOUR VOTE ON THE REVERSE SIDE
(Continued and to be signed on Reverse Side)