(To prospectus dated March 19, 2021 and prospectus supplement dated December 21, 2021)



Up to \$63,857,188 Common Shares

On December 21, 2021, we filed with the Securities and Exchange Commission (the "SEC") a prospectus supplement (the "December 2021 prospectus supplement") for the offer and sale from time to time of up to \$64,133,000 of our common shares pursuant to a Controlled Equity OfferingSM Sales Agreement (the "sales agreement") with Cantor Fitzgerald & Co. acting as sales agent ("Cantor Fitzgerald"), under two shelf registration statements on Form S-3: (a) a registration statement on Form S-3, File No. 333-254167 (the "2021 Registration Statement"), registering the offer and sale of up to \$75,000,000 of any combination of our common shares, preferred shares, debt securities and warrants, which was declared effective on March 19, 2021, all of which remains unsold; and (b) a registration statement on Form S-3, File No. 333-237975 (the "2020 Registration Statement"), registering the offer and sale of up to \$75,000,000 of any combination of our common shares, preferred shares, debt securities and warrants, which was declared effective on May 8, 2020. In accordance with SEC rules, the 2020 Registration Statement expired on May 8, 2023, the three-year anniversary of the date on which it was declared effective. As of the date of this prospectus supplement, \$275,812 of our common shares have been issued and sold under the December 2021 prospectus supplement, all of which were sold under the 2020 Registration Statement.

This prospectus supplement updates, amends and supplements the December 2021 prospectus supplement. The \$63,857,188 of common shares that may be offered, issued and sold in this offering from and after the date hereof will all be offered, issued, and sold under the 2021 Registration Statement and includes (i) \$25,000,484 of our common shares referenced in the December 2021 prospectus supplement, plus (ii) an additional \$38,856,704 of our common shares (the "Additional Shares"). This prospectus supplement should be read together with the December 2021 prospectus supplement and the accompanying prospectus dated March 19, 2021, including the documents incorporated by reference therein. No further sales will be made under the 2020 Registration Statement. All references to the 2020 Registration Statement and its prospectus supplement differs from or conflicts with the information contained in this prospectus dated March 19, 2021 prospectus dated March 19, 2021, or any document incorporated by reference having an earlier date, the information in this prospectus supplement will control.

Legal Matters: The validity of the Additional Shares offered in this offering will be passed upon by Sheppard, Mullin, Richter & Hampton LLP, Del Mar, California.

Our common shares are listed on the NYSE American and on the Tel Aviv Stock Exchange under the symbol "LCTX." On May 17, 2023, the last reported sale price of our common shares on the NYSE American was \$1.38 per share.

Sales of our common shares, if any, in this offering may be made in sales deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended (the "Securities Act"). Cantor Fitzgerald is not required to sell any specific number or dollar amount of our common shares, but will act as a sales agent using commercially reasonable efforts to sell on our behalf all of the common shares requested to be sold by us, consistent with its normal trading and sales practices, on mutually agreed terms between Cantor Fitzgerald and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Cantor Fitzgerald will be entitled to compensation at a commission rate of 3.0% of the gross sales price per share sold. In connection with the sale of the common shares on our behalf, Cantor Fitzgerald will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Cantor Fitzgerald will be deemed to be underwriting commissions or discounts.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page S-3 of the December 2021 prospectus supplement and under similar headings in the other documents that are incorporated by reference into the December 2021 prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.



The date of this prospectus supplement is May 18, 2023.