Exhibit 10.1  
PURCHASE AGREEMENT  
PURCHASE AGREEMENT (the “Agreement”), dated as of August 2, 2022, by and between PLUS THERAPEUTICS, INC., a Delaware corporation (the “Company”), and LINCOLN PARK CAPITAL FUND, LLC, an Illinois limited liability company (the “Investor”). Capitalized terms used herein and not otherwise defined are defined in Section 1 of this Agreement.  
WHEREAS:  
Subject to the terms and conditions set forth in this Agreement, the Company wishes to sell to the Investor, and the Investor wishes to buy from the Company, up to Fifty Million Dollars ($50,000,000) of the Company’s common stock, $0.001 par value per share (the “Common Stock”). The shares of Common Stock to be purchased hereunder are referred to herein as the “Purchase Shares.”  
NOW THEREFORE, in consideration of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Investor hereby agree as follows:  
 1.  
CERTAIN DEFINITIONS.  
For purposes of this Agreement, the following terms shall have the following meanings:  
(a) “Accelerated Purchase Date” means, with respect to any Accelerated Purchase made pursuant to Section 2(b) hereof, the Business Day immediately following the applicable Purchase Date with respect to the corresponding Regular Purchase referred to in clause (i) of the second sentence of Section 2(b) hereof.  
(b) “Accelerated Purchase Minimum Price Threshold” means, with respect to any Accelerated Purchase made pursuant to hereof, the greater of (i) seventy-five percent (75%) of the Closing Sale Price of the Common Stock on the applicable Purchase Date with respect to the corresponding Regular Purchase referred to in clause (i) of the second sentence of hereof and (ii) the minimum per share price threshold set forth in the applicable Accelerated Purchase Notice.