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

FORM 6-K

Report of Foreign Private Issuer
Pursuant to Rule 13a-16 or 15d-16
of the Securities Exchange Act of 1934

For the month of September 2025
Commission File Number: 001-37643

PURPLE BIOTECH LTD.
(Translation of registrant's name into English)

4 Oppenheimer Street, Science Park, Rehovot 7670104, Israel
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Purple Biotech

On September 3, 2025, Purple Biotech Ltd. (the "**Company**" or the "**Registrant**") issued a press release "**Purple Biotech Expands CAPTN-3 Portfolio with IM1305, a Novel Tri-Specific Antibody Targeting TROP2"**, which is attached hereto as Exhibit 99.1.

Exhibit	
99.1	**Purple Biotech Expands CAPTN-3 Portfolio with IM1305, a Novel Tri-Specific Antibody Targeting TROP2**

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

September 3, 2025

PURPLE BIOTECH LTD.

By: */s/ Gil Efron*
Gil Efron
Chief Executive Officer

Exhibit 99.1

Purple Biotech Expands CAPTN-3 Portfolio with IM1305, a Novel Tri-Specific Antibody Targeting TROP2

Encouraging in-vivo results demonstrate sustained tumor regression with the CD3xTROP2xNKG2A antibody

First CAPTN-3 tri-specific antibody, IM1240, targeting the novel tumor associated antigen 5T4 advances toward first-in-human clinical trials, with Investigational New Drug (IND) submission planned for 2026

REHOVOT, Israel, Sept. 03, 2025 (GLOBE NEWSWIRE) -- Purple Biotech Ltd. ("Purple Biotech" or "the Company") (NASDAQ/TASE: PPBT), a clinical-stage company developing first-in-class therapies that seek to overcome tumor immune evasion and drug resistance, today announced its second CAPTN-3 trispecific antibody, targeting TROP2 in development.

Purple Biotech has advanced development of a tri-specific antibody targeting TROP2 from its unique CAPTN-3 platform. Through activation of both the innate and adaptive immune systems, CAPTN-3 platform candidates can generate synergistic responses within the tumor microenvironment (TME) and overcome the immunosuppressive environment, which remains a major challenge in treating solid tumors.

IM1305 (capped-CD3xTROP2xNKG2A) contains a masked anti-CD3 arm, as well as an anti-NKG2A arm, and an anti-TROP2 arm. The potent anti-CD3 arm is masked at the periphery with a cleavable cap, designed to be removed specifically in the TME, which is expected to reduce the risk of off-target cytokine release and potentially enables higher dosing to achieve increased efficacy.

Encouraging preclinical results targeting TROP2 have demonstrated sustained tumor regression of human triple negative breast cancer (TNBC) in a mouse model, with no detectable tumor recurrence following treatment completion. Significant cell death induction was demonstrated in multiple tumor types, including TNBC, tongue and hypopharyngeal cancers, pancreatic and gastric cancers, at remarkably low doses (EC_{50} 1-5 pM).

TROP2 is broadly expressed across major solid tumors (e.g., breast, lung, gastrointestinal, ovarian) and is associated with poor prognosis. Supported by prior clinical validation from approved TROP2-directed antibody-drug conjugates (ADCs), the broad potential of targeting TROP2 makes it a compelling target for the CAPTN-3 platform.

Unlike ADCs or monospecific antibodies, CAPTN-3 combines selective TROP2 binding with multi-effector immune recruitment (T and NK cells). This immune synapse–driven cytotoxicity is expected to potentially be independent of TROP2 density, providing a strong rationale for activity in non-ADC settings and across diverse tumor types.

"We are expanding our portfolio with the development of this novel tri-specific antibody to leverage our accumulated knowledge and technological advancements from the development of IM1240. By optimizing the CAPTN-3 platform, we are able to accelerate the time of development for the new TROP2 targeted tri-specific antibody." said Gil Efron, CEO of Purple Biotech Ltd." There is growing interest in TROP2 as a therapeutic target and excitement around next-generation engagers, and we believe our TCE platform is uniquely positioned to capitalize on this momentum. CAPTN-3 is a platform that can potentially generate multiple programs and expand our partnering opportunities."

About Purple Biotech

Purple Biotech Ltd. (NASDAQ/TASE: PPBT) is a clinical-stage company developing first-in-class therapies that seek to overcome tumor immune evasion and drug resistance. The Company's oncology pipeline includes CAPTN-3, CM24 and NT219. The Company is advancing CAPTN-3, a preclinical platform of conditionally activated tri-specific antibodies, which engage both T cells and NK cells to induce a strong, localized immune response within the tumor microenvironment. The cleavable capping technology confines the compound's therapeutic activity to the local tumor microenvironment, thereby potentially increasing the anticipated therapeutic window in patients. The third arm specifically targets the Tumor Associated Antigen (TAA). The technology presents a novel mechanism of action by unleashing both innate and adaptive immune systems to mount an optimal anti-tumoral immune response. IM1240 is the first tri-specific antibody in development that targets the 5T4 antigen, which is expressed in a variety of solid tumors and is associated with advanced disease, increased invasiveness, and poor clinical outcomes. CM24 is a humanized monoclonal antibody that blocks CEACAM1, which supports tumor immune evasion and survival through multiple pathways. CEACAM1 on tumor cells, immune cells and neutrophil extracellular traps is a novel target for the treatment of multiple cancer indications. As proof of concept of these novel pathways, the Company completed a Phase 2 study for the treatment of pancreatic ductal adenocarcinoma (PDAC) with CM24 as a combination therapy with the anti-PD-1 checkpoint inhibitor nivolumab and chemotherapy, demonstrating clear and consistent improvement across all efficacy endpoints and the identification of two potential serum biomarkers and other potential tissue biomarkers. NT219 is a dual inhibitor, novel small molecule that simultaneously targets IRS1/2 and STAT3. A Phase 1 dose escalation study was concluded as a monotherapy and in combination with cetuximab, in which NT219 demonstrated anti-tumor activity in combination with cetuximab in second-line patients with recurrent and/or metastatic squamous cell carcinoma of the head and neck (R/M SCCHN). A Phase 2 study in collaboration with the University of Colorado, to treat R/M SCCHN patients with NT219 in combination with cetuximab or pembrolizumab was initiated. The Company's corporate headquarters are located in Rehovot, Israel. For more information, please visit https://purple-biotech.com/.

Forward-Looking Statements and Safe Harbor Statement

Certain statements in this press release that are forward-looking and not statements of historical fact are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, but are not limited to, statements that are not statements of historical fact, and may be identified by words such as “believe”, “expect”, “intend”, “plan”, “may”, “should”, “could”, “might”, “seek”, “target”, “will”, “project”, “forecast”, “continue” or “anticipate” or their negatives or variations of these words or other comparable words or by the fact that these statements do not relate strictly to historical matters. You should not place undue reliance on these forward-looking statements, which are not guarantees of future performance. Forward-looking statements reflect our current views, expectations, beliefs or intentions with respect to future events, and are subject to a number of assumptions, involve known and unknown risks, many of which are beyond our control, as well as uncertainties and other factors that may cause our actual results, performance or achievements to be significantly different from any future results, performance or achievements expressed or implied by the forward-looking statements. Important factors that could cause or contribute to such differences include, among others, risks relating to: the plans, strategies and objectives of management for future operations; product development for NT219, CM24 and IM1240; the process by which such early stage therapeutic candidates could potentially lead to an approved drug product is long and subject to highly significant risks, particularly with respect to a joint development collaboration; the fact that drug development and commercialization involves a lengthy and expensive process with uncertain outcomes; our ability to successfully develop and commercialize our pharmaceutical products; the expense, length, progress and results of any clinical trials; the impact of any changes in regulation and legislation that could affect the pharmaceutical industry; the difficulty in receiving the regulatory approvals necessary in order to commercialize our products; the difficulty of predicting actions of the U.S. Food and Drug Administration or any other applicable regulator of pharmaceutical products; the regulatory environment and changes in the health policies and regimes in the countries in which we operate; the uncertainty surrounding the actual market reception to our pharmaceutical products once cleared for marketing in a particular market; the introduction of competing products; patents obtained by competitors; dependence on the effectiveness of our patents and other protections for innovative products; our ability to obtain, maintain and defend issued patents; the commencement of any patent interference or infringement action against our patents, and our ability to prevail, obtain a favorable decision or recover damages in any such action; and the exposure to litigation, including patent litigation, and/or regulatory actions, and other factors that are discussed in our Annual Report on Form 20-F for the year ended December 31, 2024 and in our other filings with the U.S. Securities and Exchange Commission (“SEC”), including our cautionary discussion of risks and uncertainties under “Risk Factors” in our Registration Statements and Annual Reports. These are factors that we believe could cause our actual results to differ materially from expected results. Other factors besides those we have listed could also adversely affect us. Any forward-looking statement in this press release speaks only as of the date on which it is made. We disclaim any intention or obligation to publicly update or revise any forward-looking statement or other information contained herein, whether as a result of new information, future events or otherwise, except as required by applicable law. You are advised, however, to consult any additional disclosures we make in our reports to the SEC, which are available on the SEC’s website, https://www.sec.gov.

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