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 June 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 June 23, 2025, Purple Biotech Ltd. (the "**Company**" or the "**Registrant**") issued a press release, "**Purple Biotech Announces Highlights Significant Advantages of the Novel CAPTN-3 Tri-Specific Antibody Platform at the EACR 2025 Annual Congress"**, which is attached hereto as Exhibit 99.1.

Exhibit	
99.1	***Press Release issued by Purple Biotech Ltd. on June 23, 2025***

Incorporation by Reference

This Report on Form 6-K, including all exhibits attached hereto, is hereby incorporated by reference into each of the Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on May 20, 2016 (Registration file number 333-211478), the Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on June 6, 2017 (Registration file number 333-218538), the Registrant's Registration Statement on Form F-3, as amended, originally filed with the Securities and Exchange Commission on July 16, 2018 (Registration file number 333-226195), the Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on March 28, 2019 (Registration file number 333-230584), the Registrant's Registration Statement on Form F-3 filed with the Securities and Exchange Commission on September 16, 2019 (Registration file number 333-233795), the Registrant's Registration Statement on Form F-1 filed with the Securities and Exchange Commission on December 27, 2019 (Registration file number 333-235729), the Registrant's Registration Statement on Form F-3 filed with the Securities and Exchange Commission on May 13, 2020 (Registration file number 333-238229), the Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on May 18, 2020 (Registration file number 333-238481), each of the Registrant's Registration Statements on Form F-3 filed with the Securities and Exchange Commission on July 10, 2020 (Registration file numbers 333-239807 and 333-233793), the Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on April 4, 2022 (Registration file number 333-264107) and the Registrant's Registration Statement on Form F-3 filed with the Securities and Exchange Commission on March 23, 2023 (Registration file number 333-270769), the Registrant's Registration Statement on Form F-3, as amended, originally filed with the Securities and Exchange Commission on December 8, 2022 (Registration file number 333-268710), the Registrant's Registration Statement on Form F-1, as amended, originally filed with the Securities and Exchange Commission on October 30, 2023 (Registration file number 333-275216) and the Registrant's Registration Statement on Form F-1, filed with the Securities and Exchange Commission on July 22, 2024 (Registration file number 333-280947), to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

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.

June 23, 2025

PURPLE BIOTECH LTD.

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

Exhibit 99.1

Purple Biotech Highlights Significant Advantages of the Novel CAPTN-3 Tri-Specific Antibody Platform at the EACR 2025 Annual Congress

REHOVOT, Israel, June 23, 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 the presentation of new preclinical data on its novel CAPTN-3 tri-specific antibody platform in a poster presentation at the 2025 Annual Congress of the European Association for Cancer Research (EACR 2025), that was held in Lisbon, Portugal from June 16-19, 2025.

"Purple's proprietary CAPTN-3 platform of T-cell engagers enables the creation of a large number of antibodies to different targets, and by capping the anti-CD3 arm for conditional activation and adding an NK cell antibody arm, we are creating tri-specific antibodies that safely activate both the innate and adaptive immune systems," said Gil Efron, Purple Biotech CEO. "Our poster at EACR 2025 highlights the flexibility and efficiency of the platform."

The design of the CAPTN-3 lead product and other candidates in this platform includes an anti-NKG2A arm, which acts both as an NK cell antigen and as an immune checkpoint on both T cells and NK cells through its interaction with HLA-E, which is often upregulated in tumors to evade immune detection.

NKG2A expression identifies a subset of human gamma delta 2 T cells exerting the highest antitumor effector functions. Anti-NKG2A function is required to unleash the NKG2A+ gamma delta 2 T cell anti-cancer activity. Our data demonstrate that the NKG2A arm in CAPTN-3 TCE synergizes with the anti-CD3 arm to induce significant cytotoxic effects against solid tumor cells.

NKG2A is an immune checkpoint that plays an important role in the exhaustion of cytotoxic T cells in the tumor microenvironment (TME). The preclinical data demonstrate the potential of CAPTN-3 to re-invigorate exhausted T cells and efficiently kill solid tumor cells, largely attributed to the significant contribution of the unique anti-NKG2A arm.

These activities are further supported by the in-vivo data demonstrating that both the NKG2A and CD3 arms contribute to the sustained tumor regression observed in mice models. These results underscore the innovative design of CAPTN-3, highlighting the impact of the novel anti-NKG2A arm and its synergistic effect with the anti-CD3 arm.

The CAPTN-3 platform creates a tri-specific scaffold with three binding arms. In the variable region, one arm conditionally binds to CD3, only after the cap has been cleaved by proteases in the TME. The other variable region engages natural killer (NK) cells, activating the innate immune system to join activated T cells in the killing of tumor cells. The constant region of the tri-specific antibody targets tumor associated antigens (TAA) to recruit both NK and T cells to the tumor. Through activation of both the innate and adaptive immune systems, the CAPTN-3 platform can generate synergistic responses within the TME, without the risk of off-target cytokine release.

Key Highlights from the Poster Presentation:

- **Robust In Vivo Anti-Tumor Activity:** The lead CAPTN-3 tribody, IM1240 (capped-CD3×5T4×NKG2A), induced sustained tumor regression in a triple negative breast cancer (TNBC) xenograft model.
- **Conditional, Tumor-Restricted Activation:** The 'capped' CD3 arm remained inactive in serum samples of advanced cancer patients and healthy donors and is selectively unmasked by TME proteases, expanding the therapeutic window and reducing potential systemic NKG2A+NK cell depletion.
- **Dual Innate and Adaptive Engagement:** IM1240's NKG2A checkpoint blockade arm **synergizes** with the CD3 engager to activate both innate and adaptive immune subsets, translating to potent cytotoxicity in vitro and in vivo. The poster demonstrates:
  - Activation of the extremely high **antitumor NKG2A**$^{+}$ gamma delta 2 **T effector cells**
  - **Reinvigoration of exhausted T cells** against solid tumor cells
  - The added value of IM1240 **NKG2A** arm to the **in-vivo tumor suppression**
- **Plug & Play Flexibility:** Additional CAPTN-3 tribodies, such as IM1060 (CD3×5T4×NKG2D) and IM1065 (CD3×EGFR×NKG2A), demonstrated significant tumor regression, underscoring the platform's modularity and customizable capabilities.
- Superior efficacy versus combination of individual antibodies was demonstrated.

EACR 2025 poster details are as follows:

Abstract #: EACR25-1964
Title: "*CAPTN-3: A novel platform of conditionally activated T cell and NK cell engagers"*
Session Title: Immunotherapy
The poster is available in the Publications section on Purple Biotech's website.

Abstracts related to the EACR meeting will be published online following the presentation. For more information, please visit the EACR 2025 website.

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 CM24, NT219, and CAPTN-3. 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. 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 is also 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 induce 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. 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 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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