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 October 2024
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 ☐

On October 25, 2024, Purple Biotech Ltd. (the "Company" or the "Registrant") issued a press release titled "*Purple Biotech Presents New Data for its Novel Tri-Specific T Cell and NK Cell Engagers Antibody Platform, CAPTN-3, at the EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics"* a copy of which is attached hereto as Exhibit 99.1.

Exhibit	
99.1	***Press Release issued by Purple Biotech Ltd. on October 25, 2024***

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.

October 25, 2024

PURPLE BIOTECH LTD.

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

Exhibit 99.1

Purple Biotech Presents New Data for its Novel Tri-Specific T Cell and NK Cell Engagers Antibody Platform, CAPTN-3, at the EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics

CAPTN-3 demonstrates sustained tumor regression in a triple negative breast cancer in-vivo model; A dose dependent activity and a synergistic effect of the engager arms also seen in non-small cell lung cancer patient-derived explants

Lead tribody IM1240 data demonstrated that cytokine release is 5T4-dependent and suppressed by the conditionally activated capping technology, suggesting preferred safety profile

Demonstration of additional tribodies suggests CAPTN-3 plug and play platform capability

REHOVOT, Israel, Oct. 25, 2024 (GLOBE NEWSWIRE) -- Purple Biotech Ltd. ("Purple Biotech" or "the Company") (NASDAQ/TASE: PPBT), a clinical-stage company developing first-in-class therapies that overcome tumor immune evasion and drug resistance, today announced new data regarding its tri-specific antibody platform, CAPTN-3, which were presented at the 36th European Organization for Research and Treatment of Cancer, National Cancer Institute, American Association for Cancer Research (EORTC-NCI-AACR) Symposium on Molecular Targets and Cancer Therapeutics (the "Triple Meeting") on October 25, 2024 in Barcelona, Spain.

"CAPTN-3 is a novel technology platform allowing Purple Biotech to develop a variety of new tri-specific antibodies to address different targets on tumors and different mechanisms to treat cancer patients. Our Investigational New Drug (IND) enabling work is aimed to reach first in human clinical studies with our lead candidate IM1240 potentially by 2026," said Gil Efron, Purple Biotech CEO. "Development of this differentiated platform allows us to potentially offer partners and patients additional antibodies to treat different cancer types."

CAPTN-3 is a novel platform technology of conditionally activated tri-specific antibodies engaging both **T** cells and **N**K cells to target cancers expressing Tumor Associated Antigen (TAA) (αCD3xαTAAxαNKG2A) to induce a strong and selective immune response against the tumor. The addition of the NK engager aims to enhances the tumor-killing activity, providing a key differentiation for more sustained and potent anti-tumor effects. The anti-NKG2A arm also acts as a checkpoint inhibitor enabling simultaneous NK and T-cell activation. This scaffold is designed to be activated only at the tumor microenvironment (TME) to improve the safety profile and extend the therapeutic index. The capped-αCD3 is cleaved by multiple TME-specific proteases, increasing the likelihood of activation by various tumor types. To further extend the capped tribody half-life, human serum albumin is included. CAPTN-3 leverages a plug and play scaffold system providing a flexible design to easily swap and integrate various antibodies to target a wide range of diseases.

The platform's lead compound IM1240 (aCD3xa5T4xaNKG2A) targets 5T4, a TAA expressed in a variety of solid tumors and which is correlated with advanced disease, increased invasiveness, and poor clinical outcome.

“Unleashing both innate and adaptive immune subsets against the tumor through potential engagement of both T cells and NK cells to the tumor, accompanied by NKG2A:HLA-E checkpoint blockage enabling simultaneous activation of NK cell and highly cytotoxic NKG2A^{+} T cell subsets, is suggested as a powerful mechanism of CAPTN-3 to enhance the anti-tumor activity, and differentiates this approach from others in the field. Our CAPTN-3 platform’s lead candidate, IM1240, was found to induce enhanced and synergistic anti-tumor activity in a clinically-relevant PDE assay of a 5T4-expressing biopsy, as compared to the T cell engager or the NK cell engager bispecific derivatives. CAPTN-3’s conditional activation mechanism, including a selective capping cleavage by TME proteases and TAA dependency, potentially improve safety and efficacy, and therefore result in a wider therapeutic window. The advantages of the cleavable capping technology, in aspects of efficacy, drug exposure, and safety are demonstrated in this poster,” stated Purple Biotech’s VP Research and Development, Dr. Hadas Reuveni. “IM1240’s target, 5T4, which associates with advanced disease, increased invasiveness and poor prognosis, is an attractive target for a variety of solid cancers.”

Purple Biotech’s poster titled “CAPTN-3: A novel platform of conditionally activated T cell and NK cell engagers”, which can be viewed HERE, presented the following:

- The lead compound, IM1240 demonstrated high affinity binding towards CD3 & NKG2A proteins and CD3& NKG2A expressing cells, while no binding was detected using the mutated versions of the tribody, indicating specificity. The synergistic effects of the αCD3 and αNKG2A arms in suppressing 5T4^{+} non-small cell lung cancer (NSCLC) patient-derived explant (PDE) at 10nM were demonstrated, emphasizing CAPTN-3’s potential advantage in a clinically-relevant biological assay. A dose-dependent effect of IM1240 was shown.

- Sustained tumor regression in triple negative breast cancer humanized mice was demonstrated for the capped tribody, which was superior to the uncapped tribody. No effect was shown with the non-cleavable capped tribody whose CD3 binding function is irreversibly blocked.

- Cytotoxic effect and binding to CD3 was fully recovered following capping cleavage.

- PBMC-mediated cytotoxicity against 5T4^{+} cancer cells was demonstrated at picomolar EC50 while no effect was observed in 5T4^{-} cancer cells.

- IM1240 and non-capped tribody inhibited NKG2A-HLA-E interaction in a dose-dependent manner, while NKG2A mutated tribody had no effect.

- NK cell mediated cytotoxicity against HLA-E expressing cancer cells was demonstrated, while NKG2A mutated tribody had no effect.

- A cytokine release assay from hPBMC showed a 5T4^{+} cancer cell dependency and was inhibited by the cap, showing superior safety profile.

- Plug and Play abilities of the platform were demonstrated through different tribodies targeting 5T4 (αCD3xα5T4xαNKG2A), EGFR (αCD3xαEGFRxαNKG2A) and NKG2D (αCD3xα5T4xαNKG2D) which demonstrated low nM and selective binding to cells overexpressing the target, and efficient PBMC and NK mediated cytotoxicity.

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 IM1240. CM24 is a humanized monoclonal antibody that blocks CEACAM1, that supports tumor immune evasion and survival through multiple pathways. CEACAM1 on tumor cells, immune cells and neutrophils extracellular traps is a novel target for the treatment of multiple cancer indications. As a proof of concept of these novel pathways, the Company is advancing CM24 as a combination therapy with anti-PD-1 checkpoint inhibitors in a Phase 2 study for the treatment of pancreatic ductal adenocarcinoma (PDAC). The Company has entered into a clinical collaboration agreement with Bristol Myers Squibb for the Phase 2 clinical trials to evaluate the combination of CM24 with the PD-1 inhibitor nivolumab in addition to chemotherapy. 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 SCCHN (R/N SCCHN). The Company is advancing CAPTN-3, a preclinical platform of conditionally-activated tri-specific antibody that engages 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, and thereby potentially increases 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 5T4 expressed in a variety of solid tumors and which is correlated 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, 2023 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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