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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 April 2023  
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 ☐

Indicate by check mark if the Registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the Registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

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On April 19, 2023, Purple Biotech Ltd. (the “Company” or the “Registrant”) issued a press release, “*Purple Biotech Reports New Preclinical Data on Potential of NT219 to Re-sensitize Resistant Tumors to Immune Checkpoint Inhibitors*”, which is attached hereto as Exhibit 99.1.

**Exhibit**

99.1 [Purple Biotech Reports New Preclinical Data on Potential of NT219 to Re-sensitize Resistant Tumors to Immune Checkpoint Inhibitors](#)

**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-3](#) filed with the Securities and Exchange Commission on December 2, 2019 (Registration file number 333-235327), 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) 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.

April 19, 2023

**PURPLE BIOTECH LTD.**

By: /s/ Lior Fhima  
Lior Fhima  
Chief Financial Officer

**Purple Biotech Reports New Preclinical Data on Potential of NT219 to Re-sensitize Resistant Tumors to Immune Checkpoint Inhibitors**

*New preclinical data from study presented at the American Association for Cancer Research 2023 Annual Meeting, 18 April 2023*

**REHOVOT, Israel, April 19, 2023 (GLOBE NEWSWIRE)** -- (GLOBE NEWSWIRE) Purple Biotech Ltd. ("Purple Biotech", or the "Company") (NASDAQ/TASE: PPBT), a clinical-stage company developing first-in-class, effective and durable therapies that harness the power of the tumor microenvironment (TME) to overcome tumor immune evasion and drug resistance, today shared new results presented at the American Association for Cancer Research (AACR) Annual Meeting 2023 in Orlando. The results demonstrate the potential of NT219, the Company's novel small molecule dual inhibitor of IRS1/2 and STAT3 escape mechanisms, to work synergistically with either anti-PD1 or anti-CTLA4 drugs to reprogram the immune profile in the TME and convert resistant tumors to responders to Immune Checkpoint Blockage (ICB) therapies. The study was led by researchers at The University of Texas MD Anderson Cancer Center. Main results are as follows:

- NT219 induced significant PDL1 expression in melanoma cells *in-vitro* and showed a synergistic effect with anti-PD1 therapy in tumor growth inhibition *in-vivo*. The induction of PDL1 by NT219 was much higher in the ICB-resistant melanoma strain as compared to ICB-sensitive cells, suggesting the potential to re-sensitize refractory tumors to anti-PD1 therapy.
- Treatment of immunocompetent mice bearing ICB-resistant tumors with NT219 in combination with either anti-PD1 or anti-CTLA4 therapies showed a significant increase in activated CD8 cytotoxic T cells and NK cells in the TME; this effect was seen in parallel with a significant decrease in the infiltration of immunosuppressive populations, including regulatory T cells, and myeloid-derived suppressor cells, and M2 macrophages. No such effects were detected with either therapy alone.
- Similarly, NT219 in combination with anti-PD1 showed synergistic effects inducing significant tumor growth inhibition of ICB-resistant tumors, while each therapy alone had no effect.
- The ICB-resistant clone showed higher levels of both IRS1 and STAT3 activation in comparison with the ICB-sensitive clone of the same origin melanoma cells. Treatment with NT219 diminished both IRS1 and STAT3 phosphorylation in both cloned cell lines and showed a durable effect on these target proteins, which are known to be involved in drug resistance.

"These results suggest that combining ICB with NT219 may be a promising strategy to reprogram the immune profile of the TME to enhance anti-tumor immunity, turning 'cold' tumors 'hot' and re-sensitizing resistant tumors to anti-PD1 therapy", said Hadas Reuveni, PhD, VP R&D at Purple Biotech. "The insidious process by which tumors become resistant to so many of our most promising cancer drugs robs patients of hope and of time with their families. Lengthening the duration of treatment as well as broadening the patient population that may benefit from these treatments address the highest obstacles of ICB therapies today."

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Results from **5073/7 “NT219 induces tumor PD-L1 expression and potentiates anti-PD-1 efficacy”** presented as a poster on April 18, 2023, at the AACR 2023 Annual Meeting.

The full poster can be viewed on the Purple Biotech Website at <https://purple-biotech.com/pipeline/#1Publications>.

### **About NT219**

NT219 is a dual inhibitor, novel small molecule that simultaneously targets IRS1/2 and STAT3. In a Phase 1/2 study of NT219, the Company is currently advancing it as a monotherapy treatment of solid tumors, and in a dose escalation in combination with cetuximab for the treatment of recurrent and metastatic squamous cell carcinoma of the head and neck (SCCHN) or colorectal adenocarcinoma (CRC). These studies will be followed by an expansion phase of NT219 at its recommended Phase 2 level in combination with cetuximab in patients with recurrent and metastatic SCCHN.

### **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 NT219, CM24 and IM1240. NT219 is a dual inhibitor, novel small molecule that simultaneously targets IRS1/2 and STAT3. In a Phase 1/2 study of NT219, the Company is currently advancing it as a monotherapy treatment of solid tumors, and in a dose escalation in combination with cetuximab for the treatment of recurrent and metastatic squamous cell carcinoma of the head and neck (SCCHN) or colorectal adenocarcinoma (CRC). These studies will be followed by an expansion phase of NT219 at its recommended Phase 2 level in combination with cetuximab in patients with recurrent and metastatic SCCHN. CM24 is a humanized monoclonal antibody that blocks CEACAM1, an immune checkpoint protein that supports tumor immune evasion and survival through multiple pathways. The Company is advancing CM24 as a combination therapy with anti-PD-1 checkpoint inhibitors and chemotherapy 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 trial to evaluate the combination of CM24 with the PD-1 inhibitor nivolumab in addition to chemotherapy. IM1240 is a preclinical, conditionally-activated tri-specific antibody that engages both T cells and NK cells to mount a strong, localized immune response within the tumor microenvironment. The third arm of IM1240 specifically targets the Tumor Associated Antigen (TAA) 5T4 that is expressed in a variety of solid tumors and is correlated with advanced disease, increased invasiveness and poor clinical outcomes. IM1240 has a cleavable capping technology that confines the compound's therapeutic activity to the local tumor microenvironment, and thereby potentially increases the anticipated therapeutic window in patients. 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 expected benefits, synergies and costs of the transaction; management plans relating to the transaction; the potential future financial impact of the transaction; and any assumptions underlying any of the foregoing; the expected timing of the completion of the transaction and the parties’ ability to complete the transaction; the plans, strategies and objectives of management for future operations; product development for NT219 and CM24 as well as Immunorizon Ltd.’s portfolio of investigational tri-specific antibody compounds; 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, 2022 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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