UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

Form 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 UNDER
THE SECURITIES EXCHANGE ACT OF 1934

For the month of April 2018
Commission File Number 001-37846

CELLECT BIOTECHNOLOGY LTD.

(Translation of registrant's name into English)

23 Hata'as Street
Kfar Saba, Israel 44425
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of 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 Regulations S-T Rule 101(b)(1): ☐

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

The first and third paragraphs and "Forward Looking Statements" of the press release attached to this Form 6-K are incorporated by reference into the registrant's Registration Statements on Form S-8 (Registration No. 333-214817 and 333-220015) and on Form F-3 (Registration No. 333-219614 and 333-212432).

Attached hereto as Exhibit 99.1 and incorporated by reference herein is a press release issued by the Registrant entitled “Cellect Announces a Major Milestone for Enabling Stem Cells Production.”

Exhibit

99.1	Press Release, dated April 9, 2018

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.

Cellect Biotechnology Ltd.

Date: April 9, 2018

By: /s/ Eyal Leibovitz
Name: Eyal Leibovitz
Title: Chief Financial Officer

Exhibit 99.1

Cellect Announces
A major milestone for enabling stem cells production

Successfully completes POC testing for first ever scalable production of ApoTainer™

Cellect's ApoTainer™ built to replace complex laboratory procedures for stem cell extraction at a fraction of the time and cost

Dr. Shai Yarkoni, Cellect CEO commented:
"We believe that the expected demand for stem cells as raw material for regenerative medicine will explode over the next five years. Our ApoTainer™ is intended to ensure this demand is met with a cost-effective quality manufacturing of stem cells."

The ApoTainer™ is covered by a portfolio of IP including a patent application for apoptotic selection of stem cells using FasL-coated magnetic beads

Tel Aviv, Israel – April 9, 2018 – Cellect Biotechnology Ltd. (Nasdaq: APOP), a developer of a novel stem cell enabling technology, announced that it has successfully completed the proof of concept testing of its first in type new product prototype, ApoTainer™ using Cellect's FasL-coated magnetic beads for maximizing efficacy and scalability of stem cell based products' manufacturing. The ApoTainer™ is designed to replace highly complex and expensive procedures currently used by laboratories (e.g. Bone marrow transplantations), with a significantly more effective process at a fraction of the time and cost.

The Company believes the ApoTainer™ represents a breakthrough in achieving commercial grade scalability with a solution suitable for a wide range of users from large pharma companies interested in cost effective stem cell production through hospitals and clinics to small research laboratories.

Pre-clinical proof of concept testing of Cellect's proprietary ApoTainer™ has shown that the use of FasL-coated magnetic beads significantly increases the active surface allowing a dramatic increase of interactions between the selecting agent and the cells. The testing showed that the prototype increases specific elimination of certain (but not all) of the non-stem cells while full preservation of the number and function of the stem and progenitor cells.

Utilizing the ApoTainer™, Cellect expects blood stem cell donation to be transplantable within less than 6 hours from donation through a simple process performed at the hospital bedside instead of undergoing a lengthy laboratory procedure in a highly specialized setting. The standard medical procedure for reaching enriched stem cells currently costs tens of thousands of dollars and produces significant adverse effects.

ApoTainer™-based blood stem cell transplantation is being designed to result in improved recovery of the patient's immune system with significant reduction of safety concerns in contrast to the significant morbidity or even death caused by the standard medical procedure. Reducing the procedure related adverse effects is anticipated to cause a significant increase in the number of bone marrow transplantations – the only stem cell based medical procedure fully accepted by the medical community.

Cellect CTO Dr. Bakimer adds "Cellect has two major programs in Hematopoietic and Mesenchymal stem cells. By moving to spherical beads, we achieved a significant improvement of the number of active molecules per number of cells and that in turn is expected to improve the biological effect of the ApoTainer™."

Stem cells are the building blocks and raw material of 21st century regenerative medicine enabling a world where damaged tissues and organs may be replaced and regenerated rather than fixed with drugs, radiation and surgery. However, up to 50 percent of stem cell transplants from donors (such as in bone marrow transplantation) result in life-threatening immune reaction such as rejection and Graft-versus-Host-Disease (GvHD). Cellect's technology aims at turning stem cell transplantations into an efficient, safe and affordable procedure by reducing the associated severe side effects and simplifying the process.

About Cellect Biotechnology Ltd.

Cellect Biotechnology (NASDAQ: APOP) has developed a breakthrough technology for the selection of stem cells from any given tissue that aims to improve a variety of stem cell-based therapies.

The Company's technology is expected to provide research, hospitals and pharma companies with the tools to rapidly isolate stem cells in quantity and quality allowing stem cell-based treatments and procedures in a wide variety of applications in regenerative medicine. The current clinical trial is aimed at bone marrow transplantations in cancer treatment.

Forward Looking Statements

This press release contains forward-looking statements about the Company's expectations, beliefs and intentions. Forward-looking statements can be identified by the use of forward-looking 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. For example, forward-looking statements are used in this press release when we discuss Cellect's beliefs regarding the potential of the ApoTainer™ to achieve improved clinical outcomes and its impact in the market place. These forward-looking statements and their implications are based on the current expectations of the management of the Company only and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. In addition, historical results or conclusions from scientific research and clinical studies do not guarantee that future results would suggest similar conclusions or that historical results referred to herein would be interpreted similarly in light of additional research or otherwise. The following factors, among others, could cause actual results to differ materially from those described in the forward-looking statements: the Company's history of losses and needs for additional capital to fund its operations and its inability to obtain additional capital on acceptable terms, or at all; the Company's ability to continue as a going concern; uncertainties of cash flows and inability to meet working capital needs; the Company's ability to obtain regulatory approvals; the Company's ability to obtain favorable pre-clinical and clinical trial results; the Company's technology may not be validated and its methods may not be accepted by the scientific community; difficulties enrolling patients in the Company's clinical trials; the ability to timely source adequate supply of FasL; risks resulting from unforeseen side effects; the Company's ability to establish and maintain strategic partnerships and other corporate collaborations; the scope of protection the Company is able to establish and maintain for intellectual property rights and its ability to operate its business without infringing the intellectual property rights of others; competitive companies, technologies and the Company's industry; unforeseen scientific difficulties may develop with the Company's technology; and the Company's ability to retain or attract key employees whose knowledge is essential to the development of its products.. Any forward-looking statement in this press release speaks only as of the date of this press release. The Company undertakes no obligation to publicly update or review any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by any applicable securities laws. More detailed information about the risks and uncertainties affecting the Company is contained under the heading "Risk Factors" in Cellect Biotechnology Ltd.'s Annual Report on Form 20-F for the fiscal year ended December 31, 2017 filed with the U.S. Securities and Exchange Commission, or SEC, which is available on the SEC's website, www.sec.gov. and in the Company's periodic filings with the SEC.

Contact

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