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 October 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 second paragraphs and the "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, 333-220015 and 333-225003) 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 Technological Breakthrough for Industrialization of Apotainer™ Stem Cell Product Line.”

Exhibit

99.1	Press Release, dated October 22, 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.

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

Date: October 22, 2018

Exhibit 99.1

Cellect Announces a Major Technological Breakthrough for Industrialization of Apotainer™ Stem Cell Product Line

Utilizing first in kind (patent pending) technology of FasL-magnetic beads to significantly improve the stem cells selection process

The beads are used within Cellect's ApoTainer™ and designed to allow replacement of complex laboratory procedures significantly reducing time and costs while increasing efficacy

Dr. Shai Yarkoni, Cellect CEO commented: "We believe the development for industrialization of the Apotainer™ represents a breakthrough in meeting the rapidly growing demand for stem cells as a raw material."

Tel Aviv, Israel – October 22, 2018 – Cellect Biotechnology Ltd. (Nasdaq: APOP), a developer of a novel stem cell isolation technology, announced that it has successfully developed for industrialization its first in kind new technology as an integral part of Cellect's ApoTainer™. The new technology utilizes FasL-coated magnetic beads for maximizing efficacy and scalability of stem cell-based products' manufacturing. The Apotainer™ improves the uniformity and hence quality of the outcome thereby supporting the safety and efficacy of raw material for all cell therapy.

During the last 6 months, the Cellect team was able to optimize the beads size, coating technology, elimination of the release of FasL into the medium, all while preserving the biological activity observed in Cellect's ongoing human clinical trial. As previously reported, pre-clinical proof of concept testing of the 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. Further, such testing showed that the outcome 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.

The enhancement of the ApoTainer™ with the Fas-L-presenting magnetic beads is designed to replace highly complex and expensive procedures currently used by laboratories (e.g. T cells depletion), with a significantly more effective process at a fraction of the time and cost.

Utilizing the ApoTainer™, Cellect expects blood stem cell donation to be transplantable within less than 6 hours from donation through a simple process performed 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.

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 Company's 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 the future potential of the Apotainer. 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 the Company's Annual Report on Form 20-F for the fiscal year ended December 31, 2017 filed with the U.S. Securities and Exchange Commission ("SEC"), which is available on the SEC's website, http://www.sec.gov, and in the Company's periodic filings with the SEC.

http://www.cellect.co

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