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
under the Securities Exchange Act of 1934

For the month of: February 2017 (Report No. 5)

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 offices)

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 x 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): ☐

This Report of Foreign Private Issuer on Form 6-K of the Registrant consists of the press release issued by the Registrant on February 21, 2017, announcing final results from its clinical trial of its stem cell technology ApoGraft™ in healthy donors, which is attached hereto as Exhibit 99.1.

The first three paragraphs and "Forward Looking Statements" of the press release attached to this Form 6-K of the Registrant are incorporated by reference into the registration statement on Form S-8 (Registration No. 333-214817) of the Registrant, filed with the Securities and Exchange Commission, to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

Exhibit No.

99.1	Press Release issued by Cellect Biotechnology Ltd. on February 21, 2017, announcing final results from its clinical trial of its stem cell technology ApoGraft™ in healthy donors.

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.
(Registrant)

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

Date: February 21, 2017

Exhibit 99.1

Cellect Announces Positive Clinical Trial Results

ApoGraft ^{TM}, Cellect's flagship technology, validated as safe, robust and reproducible process for clinical use after a 104 donor test base

Cellect CEO: "In plain words, these positive results bring us one step closer to making stem cell therapies safe, effective and available"

Tel Aviv, Israel – February 21, 2017 – Cellect Biotechnology Ltd. (Nasdaq: APOP, TASE: APOP), a developer of stem cell selection technology, announced today positive final results from its clinical trial of ApoGraft™ in healthy donors. The study's primary objective was to validate the Company's propriety method of stem cell selection by going through the process of production and characterization with ApoGraft™, and was conducted on samples obtained in collaboration with two leading medical centers in Israel, The Schneider Children's Medical Center and the Rambam Medical Center.

Cellect's technology enables the use of stem cells for regenerative therapies by eliminating mature cells while leaving the stem cells unharmed using a natural process occurring in the human body, apoptosis (programed cell death), which "orders" cells to commit suicide. Cellect's validated scientific platform, and the focus of its 7 families of patents, is that the apoptosis command destroys primarily mature cells, while stem cells remain alive and flourishing. This process allows for natural enrichment of stem cells, thus enabling stem cell-based therapies or transplantation to possess an abundance of quality stem cells with little to no risk of rejection or other complications, such as Graft versus Host Disease (GvHD).

The study included 104 healthy donors of blood stem cells. The samples (collected under approval of Helsinki committees) represented 5% of a graft used for transplantation into patients. The grafts were processed allowing stem cell production for transplantation with Cellect's ApoGraft™. The use of the ApoGraft™ resulted in a significant increase in the death of mature immune cells, primarily T Lymphocytes, without compromising the quantity and quality of stem cells. The process takes only a few hours as compared to days of complex and expansive lab work with traditional methods, is anticipated to be extremely cost effective in comparison to current approaches, and has the potential to significantly reduce the risk of GvHD.

Dr. Yaron Pereg, Cellect's Chief Development Officer, commented: "These results from processing human stem cells for bone marrow transplantation using ApoGraft™ clearly demonstrated that Cellect's proprietary platform could improve the outcome of stem cell transplantations in patients suffering from hematological malignancies."

About Cellect Biotechnology Ltd.

Cellect Biotechnology is traded on both the NASDAQ and Tel Aviv Stock Exchange (NASDAQ: "APOP", "APOPW", TASE: "APOP"). The Company has developed a breakthrough technology for the isolation of stem cells from any given tissue that aims to improve a variety of stem cells applications.

The Company's technology is expected to provide pharma companies, medical research centers and hospitals with the tools to rapidly isolate stem cells for in quantity and quality that will allow stems cell related treatments and procedures. Cellect's technology is applicable to a wide variety of stem cells related treatments in regenerative medicine and that current clinical trials are aimed at the cancer treatment of bone marrow transplantations.

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 that the positive results reported in this press release bring us one step closer to making stem cell therapies safe, effective and available, that Cellect's proprietary platform could improve the outcome of stem cell transplantations in patients suffering from hematological malignancies and that our technology is expected to provide pharma companies, medical research centers and hospitals with the tools to rapidly isolate stem cells for in quantity and quality that will allow stems cell related treatments and procedures. 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: changes in technology and market requirements; we may encounter delays or obstacles in launching and/or successfully completing our clinical trials; our products may not be approved by regulatory agencies, our technology may not be validated as we progress further and our methods may not be accepted by the scientific community; we may be unable to retain or attract key employees whose knowledge is essential to the development of our products; unforeseen scientific difficulties may develop with our process; our products may wind up being more expensive than we anticipate; results in the laboratory may not translate to equally good results in real clinical settings; results of preclinical studies may not correlate with the results of human clinical trials; our patents may not be sufficient; our products may harm recipients; changes in legislation; inability to timely develop and introduce new technologies, products and applications, which could cause the actual results or performance of the Company to differ materially from those contemplated in such forward-looking statements. 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 final prospectus dated July 29, 2016 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 period filings with the SEC and the Tel-Aviv Stock Exchange.

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