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 February 2019
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 sentence in the paragraph and the "Forward Looking Statements" of the press release attached to this Form 6-K is 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 Begins Collaboration with Washington University in preparation for First U.S. Clinical Trial Using Cellect’s ApoGraft™ for Bone Marrow Transplantations.”

Exhibit

99.1	Press Release, dated February 5, 2019

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: February 5, 2019

Exhibit 99.1

Cellect Begins Collaboration with Washington University in preparation for First U.S. Clinical Trial Using Cellect's ApoGraft™ for Bone Marrow Transplantations

The Collaboration will be led by
Renowned Cell and Gene Therapy Experts Dr. John DiPersio and Dr. Mark Schroeder
with Advisory support to Cellect by
Prof. Negrin of Stanford and
Dr. Cutler of Harvard Medical School

Tel Aviv, Israel and St. Louis, MO – February 5th, 2019 – Cellect Biotechnology Ltd. (Nasdaq: APOP), a developer of a novel stem cell production technology, today announced a collaboration with Washington University, a leading academic institution based in St. Louis, MO, aimed at determining the safety and tolerability in a U.S. Phase I/II study using ApoGraft™ for bone marrow transplantations. The collaboration is led by Dr. John DiPersio, Director of the Center for Gene and Cellular Immunotherapy at Washington University School of Medicine and President of the American Society for Blood and Marrow Transplantation, and Dr. Mark Schroeder, an expert in bone marrow transplantation in the Division of Oncology at Washington University School of Medicine.

This will be the first clinical trial in the U.S. using the Company's ApoGraft stem cell selection technology, which is designed to prevent acute graft-versus-host disease following bone marrow transplantation. Previously, the Company has reported positive safety and tolerability data from an ongoing trial that is being performed outside the U.S., and expects to report additional interim results during the first half of 2019. This open label clinical trial of twelve patients, expected to complete recruitment during the second quarter of 2019, is designed to evaluate the safety and tolerability of the ApoGraft™ process in patients with hematological malignancies who are undergoing an allogeneic hematopoietic stem cell transplantation (HSCT). The primary endpoint of the study is overall incidence, frequency and severity of adverse events potentially related to ApoGraft™ at 180 days from transplantation. Preliminary data reported in October by the Company has indicated:

- One-month assessment of half of the planned patients in the ApoGraft™ study show complete engraftment and no procedure-related adverse events.

- In the first three patients completing the full study, safety and tolerability were positive, with no related adverse events (the primary endpoint) and engraftment before 28 days post-transplant.

"This is a very significant development for Cellect and demonstrates that our leading technology is garnering attention from the most influential clinical institutions in the U.S.," said Cellect CEO Dr. Shai Yarkoni. "We have already reported positive preliminary results for a trial being conducted outside of the U.S., and I believe the collaborative efforts with a leading U.S.-based institution may advance and heighten awareness of our technology. We believe Cellect's ApoGraft™ stem cell selection technology has the potential to improve the lives of millions of patients and be a game changer in bone marrow transplantation – the largest multi-billion-dollar segment of cell therapy in the U.S."

Washington University School of Medicine in St. Louis is among the leading medical centers in the U.S. This is Cellect's first collaboration with a US site for clinical development following the establishment of the clinical advisory committee consisting of Prof Negrin of Stanford, Dr. Cutler of Harvard medical school and Professor Rowe of Northwestern University. Cellect's ApoGraft™ is currently being evaluated outside of the U.S. in a Phase I/II clinical trial for prevention of acute GvHD in patients with hematological malignancies who are receiving allogeneic hematopoietic stem cell transplantation. Additional interim data is expected in H12019 and topline results by the end of the year.

About Regenerative Medicine and Cell Therapy

Regenerative medicine is a novel approach using cells and tissues to replace or regenerate human cells, tissues or organs in a wide variety of medical indications. This could be achieved by either stimulating the body to use its own repair mechanisms to heal tissues or organs, or by growing tissues and organs in the laboratory and transplanting them into the patient.

Stem cells play a major role in the achievement of the extraordinary potential results in regenerative medicine. In cell therapies they can be injected to reconstitute the entire blood system in bone marrow transplantations. Alternatively, their injection can supply the necessary biologically active molecules to induce the patients' own cells to regain normal function, as used in immunomodulation therapy. In tissue engineering, where entire organs like the retina, bone, cartilage or the skin may be replaced, stem cells are the starting material for the growth of such tissues in the laboratory. Moreover, in tissue engineering an artificial system might be created by inducing cells to perform certain biochemical functions lost due to disease (e.g., artificial pancreas or liver).

Regenerative medicine using cellular therapy in combination with new technologies like tissue engineering and gene transfer can be used in a virtually unlimited number of indications. The most frequently used cells are hematopoietic stem cells (HSC) due to their capability to reproduce the entire blood system in blood cancer and hematological disorders. Mesenchymal stem cells, which have the capability to differentiate to a large number of tissue types like bone, cartilage, fat, heart muscle and more, are of growing importance. Potential applications of cell therapies include treating cancers, autoimmune disease, urinary problems and infectious disease, rebuilding damaged cartilage in joints, repairing spinal cord injuries, improving a weakened immune system, and helping patients with neurological disorders.

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 researchers, clinical community 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.

About Washington University

Washington University is a non-profit institution of higher education located in St. Louis, Missouri. Washington University's School of Medicine is one of the leading medical research, teaching and patient care institutions, and has been ranked consistently in the top 10 in the nation by U.S. News & World Report.

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 intent regarding the future potential of Cellect's technology. 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
Cellect Biotechnology Ltd.
Eyal Leibovitz, Chief Financial Officer
www.cellect.co
+ 972-9-974-1444

Or
EVC Group LLC
Michael Polyviou / Todd Kehrli
(732) 933-2754
mpolyviou@evcgroup.com / tkehrli@evcgroup.com