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 June 2014

001-36203
(Commission File Number)

CAN-FITE BIOPHARMA LTD.

(Exact name of Registrant as specified in its charter)

10 Bareket Street
Kiryat Matalon, P.O. Box 7537
Petach-Tikva 4951778, 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): ____

On June 2, 2014, Can-Fite BioPharma Ltd. (the "Company") issued a press release announcing that the FDA has agreed with the Company's study protocol for its Phase II clinical trial of CF102 for the treatment of advanced liver cancer. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

Exhibit Index

Exhibit No.	Description
99.1	Press Release, dated June 2, 2014

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.

Can-Fite BioPharma Ltd.

Date June 2, 2014

By: /s/ Motti Farbstein
Motti Farbstein
Chief Operating and Financial Officer

Can-Fite Announces that the US FDA has Agreed with its Phase II Liver Cancer Protocol

Can-Fite's CF102 has FDA's Orphan Drug Designation for the treatment of advanced hepatocellular carcinoma

PETACH TIKVA, Israel, June 2, 2014 — Can-Fite BioPharma Ltd. (NYSE MKT: CANF) (TASE:CFBI), a biotechnology company with a pipeline of proprietary small molecule drugs that address inflammatory and cancer diseases, announced today that the U.S. FDA has agreed with the Company's study protocol for its Phase II clinical trial of CF102 for the treatment of advanced liver cancer. The FDA has granted Can-Fite Orphan Drug designation for CF102 in this indication.

The planned Phase II study will be conducted in the U.S., Europe, and Israel with 78 subjects who will be dosed with CF102 as a second-line treatment of advanced hepatocellular carcinoma (HCC) with Child-Pugh Class B cirrhosis in patients who have failed sorafenib, an FDA approved drug for the treatment of HCC. The study will investigate the efficacy and safety of CF102 as compared to placebo.

Tufts University School of Medicine is the study's U.S. clinical site. Dr. Keith Stuart, MD, will serve as Principal Investigator for the study at Tufts. He is Chairman, Department of Hematology at Lahey Clinic and Oncology Professor of Medicine, Tufts University School of Medicine.

Data from Can-Fite's completed Phase I/II study demonstrated an excellent safety profile, lack of hepatotoxicity, prolonged survival time as compared to placebo, regression of skin tumor metastases, and a stabilization of the disease in 22% of patients.

HCC, the most common form of liver cancer, is the 4th most common cancer in the world, according to information published by the National Cancer Institute. In the United States, the American Cancer Society estimates there will be 33,190 new cases diagnosed in 2014 and 23,000 deaths due to the disease. As reported by the American Cancer Society, globally each year 700,000 people are diagnosed with HCC each year and 600,000 people die of this cancer. The relative 5-year survival rate from liver cancer is about 15% in the U.S. According to Global Industry Analysts, the global liver cancer drug market is expected to exceed $2 billion by 2015.

"Advanced liver cancer is resistant to chemotherapy and the only approved drug on the market is Nexavar (sorafenib). We will treat patients who have no other treatment options," stated Can-Fite CEO Dr. Pnina Fishman.

About CF102

CF102 is a small orally bioavailable drug which binds with high affinity and selectivity to the A3 adenosine receptor. The latter is highly expressed in tumor cells whereas low expression is found in normal cells. This differential effect accounts for the excellent safety profile of the drug. In our pre-clinical and clinical studies, CF102 induces a robust anti-tumor effect via de-regulation of the Wnt signaling pathway, resulting in apoptosis of liver cancer cells.

About Can-Fite BioPharma Ltd.

Can-Fite BioPharma Ltd. (NYSE MKT: CANF) (TASE: CFBI) is an advanced clinical stage drug development company with a platform technology that is designed to address multi-billion dollar markets in the treatment of cancer and inflammatory diseases. The Company's CF101 is in Phase II/III trials for the treatment of psoriasis and the Company is preparing for a Phase III CF101 trial for rheumatoid arthritis. Can-Fite's liver cancer drug CF102 is in Phase II trials and has been granted Orphan Drug Designation by the U.S. Food and Drug Administration. CF102 has also shown proof of concept to potentially treat other cancers including colon, prostate, and melanoma. These drugs have an excellent safety profile with experience in over 1,200 patients in clinical studies to date. For more information please visit: www.can-fite.com

Forward-Looking Statements

This press release may contain forward-looking statements, about Can-Fite's expectations, beliefs or intentions regarding, among other things, its product development efforts, business, financial condition, results of operations, strategies or prospects. In addition, from time to time, Can-Fite or its representatives have made or may make forward-looking statements, orally or in writing. Forward-looking statements can be identified by the use of forward-looking words such as "believe," "expect," "intend," "plan," "may," "should" or "anticipate" or their negatives or other variations of these words or other comparable words or by the fact that these statements do not relate strictly to historical or current matters. These forward-looking statements may be included in, but are not limited to, various filings made by Can-Fite with the U.S. Securities and Exchange Commission (the "SEC"), press releases or oral statements made by or with the approval of one of Can-Fite's authorized executive officers. Forward-looking statements relate to anticipated or expected events, activities, trends or results as of the date they are made. Because forward-looking statements relate to matters that have not yet occurred, these statements are inherently subject to risks and uncertainties that could cause Can-Fite's actual results to differ materially from any future results expressed or implied by the forward-looking statements. Many factors could cause Can-Fite's actual activities or results to differ materially from the activities and results anticipated in such forward-looking statements, including, but not limited to, the factors summarized in Can-Fite's filings with the SEC and in its periodic filings with the TASE. In addition, Can-Fite operates in an industry sector where securities values are highly volatile and may be influenced by economic and other factors beyond its control. Can-Fite does not undertake any obligation to publicly update these forward-looking statements, whether as a result of new information, future events or otherwise.

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