

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 April 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 April 21, 2014, Can-Fite BioPharma Ltd. issued a press release announcing that it has initiated the development of an A3AR biomarker test kit to predict patients' response to its drugs. 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 April 21, 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 April 21, 2014

By: /s/ Motti Farbstein

Motti Farbstein

Chief Operating and Financial Officer



Can-Fite Initiates the Development of an A3AR Biomarker Test Kit to Predict Patients' Response to Company's Drugs

- *Patented biomarker test designed to predict, monitor and improve patient outcomes*

PETACH TIKVA, Israel, April 21, 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 it has signed an agreement with [Smart Assays](#) to develop a commercial biomarker blood test kit for the A3 adenosine receptor (A3AR). Can-Fite's A3AR predictive biomarker kit is designed for use at any molecular biology lab prior to treatment to help identify an individual patient's responsiveness to the Company's drugs, thus providing personalized medicine.

A3AR is present in high concentrations in inflammatory cells and cancer cells. Can-Fite's proprietary drugs target and bind to A3AR, causing cancer and inflammatory cell apoptosis (programmed cell death). This creates a targeted anti-cancer and anti-inflammatory effect, while leaving normal cells unharmed.

The [U.S. Patent and Trademark Office](#) recently issued Can-Fite a patent for the utilization of A3AR as a biomarker to predict patient response to its drug CF101 in autoimmune inflammatory indications. In December 2013, [Can Fite reported favorable results](#) from its Phase IIb rheumatoid arthritis clinical trial for CF101, an A3AR agonist. Only patients with elevated baseline expression levels of the biomarker A3AR were enrolled in the study. CF101 met all primary efficacy endpoints, showing statistically significant superiority over placebo in reducing signs and symptoms of rheumatoid arthritis.

"In our Phase IIa rheumatoid arthritis study we found that 70% of patients had high A3AR baseline levels. These patients were the most responsive to our drug. By developing a biomarker test that can be used at any molecular lab, we offer doctors and their patients a simple method for determining which patients will benefit most from CF101. Because rheumatoid arthritis is a complex disease with a high degree of clinical heterogeneity, a personalized medicine approach is needed and CF101 coupled with a biomarker test is designed to meet this need," stated Can-Fite CEO Dr. Pnina Fishman.

Smart Assays, led by [Dr. Raphael Mayer](#), is a company that specializes in the design of biomarker assays for diagnosis, prediction and disease status follow up.

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 as well as a Phase II CF101 trial for osteoarthritis. 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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