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 May 2015

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): ____

This Report on Form 6-K (including exhibits thereto) is hereby incorporated by reference into the registrant's Registration Statements on Form F-3 (File Nos.. 333-195124 and 333-199033), to be a part thereof from the date on which this report is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

On May 29, 2015, Can-Fite BioPharma Ltd. (the "Company") issued a press release announcing its financial results for the three months ended March 31, 2015. A copy of this press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

In addition, on May 29, 2015, the Company made available an updated investor presentation on its website. A copy of the investor presentation is attached hereto as Exhibit 99.2 and may be viewed in the Investor Information section of the Company's website at www.canfite.com.

Exhibit Index

Exhibit No.	Description
99.1	Press Release, dated May 29, 2015
99.2	Investor Presentation – May 2015

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 May 29, 2015

By: /s/ Pnina Fishman
Pnina Fishman
Chief Executive Officer

Exhibit 99.1

Can-Fite Reports First Quarter 2015 Results

PETACH TIKVA, Israel, May 29, 2015 -- Can-Fite BioPharma Ltd. (NYSE MKT: CANF) (TASE:CFBI), a biotechnology company with a pipeline of proprietary small molecule drugs being developed to treat inflammatory diseases, cancer and sexual dysfunction, today reported financial results for the three months ended March 31, 2015 and updates on its drug development programs.

Clinical Development Program and Corporate Highlights Include:

- ***CF101 – Finalizing Design for Next Advanced Clinical Studies***

  Can-Fite completed the design of a Phase III clinical study for the treatment of patients with rheumatoid arthritis. The Phase III design is based on positive data received from the Company's completed Phase IIb study in which CF101 was administered as a monotherapy. Can-Fite plans on submitting the Phase III study protocol to Institutional Review Boards (IRBs) for approval in the fourth quarter of 2015. Can-Fite also plans to finalize the design of its next advanced psoriasis study based on the positive data that were released recently from its further analysis of its completed Phase II/III study. Study design for the advanced psoriasis trial is expected to be completed during the second half of 2015.

- ***CF102 – Enrolling and Dosing Patients in Liver Cancer Trial***

  Can-Fite continues to enroll and dose patients in its global Phase II liver cancer study. Approximately 78 patients are expected to be enrolled in the trial by the end of the first half of 2016.

- ***CF602 – Conducting Pre-Clinical Program and Preparatory Work for IND Submission***

  Can-Fite is developing its third drug candidate, CF602, for the indication of sexual dysfunction. The Company is continuing its pre-clinical program and preparatory work for its upcoming Investigational New Drug (IND) submission that it intends to make to the U.S. FDA.

- ***Signed Partnership with Cipher Pharmaceuticals***

  During the first quarter of 2015, Can-Fite signed a distribution agreement with Canada-based Cipher Pharmaceuticals for the distribution of CF101, for the treatment of moderate to severe psoriasis and rheumatoid arthritis in the Canadian market upon receipt of regulatory approvals. Following signing of the agreement, Cipher made an upfront payment of CDN$1.65 million to Can-Fite.

- ***Planned Acquisition of Medical Device Company by Can-Fite Subsidiary***

  OphthaliX, Can-Fite’s subsidiary, which develops ophthalmic indications of CF101, signed a non-binding term sheet to acquire Israel-based Improved Vision Systems, LTD. (I.V.S.). I.V.S. develops breakthrough medical device technology to improve sight and diagnose and offer therapy for a variety of ocular diseases and eye conditions including glaucoma, age macular degeneration (AMD), diabetic retinopathy and ocular motor pathologies, addressing multi-billion dollar markets. OphthaliX continues to enroll patients in a Phase II clinical study of CF101 for glaucoma and data release is expected during the first half of 2016.

"We advanced each of our four clinical programs in a meaningful way during the first quarter and are pleased with the pace and number of studies we are pursuing in parallel for a company of our size," stated Can-Fite CEO Dr. Pnina Fishman. "Despite not achieving its primary endpoint, we are encouraged by further analysis of our completed Phase II/III psoriasis study which showed that CF101 could serve as a first-line therapy for moderate-severe psoriasis based on the higher efficacy in patients who were previously not treated with systemic therapy."

Research and development expenses for the three months ended March 31, 2015 were NIS 2.33 million (U.S. $0.58 million) compared with NIS 3.82 million (U.S. $0.96 million) for the same period in 2014. Research and development expenses for the first quarter of 2015 comprised primarily of expenses associated with the Phase II study for CF102 as well as expenses for ongoing studies of CF101. The decrease is primarily due to the completion of the Phase II/III psoriasis study during the first quarter of 2015.

General and administrative expenses were NIS 2.48 million (U.S. $0.62 million) for the three months ended March 31, 2015 compared to NIS 2.94 million (U.S. $0.74 million) for the same period in 2014. The decrease is primarily due to a reduction in salary and professional services expenses.

Financial income, net for the three months ended March 31, 2015 aggregated NIS 3.3 million (U.S. $0.83 million) compared to NIS 0.5 million (U.S. $0.13 million) for the same period in 2014. The increase in financial income, net in the first quarter of 2015 was mainly due to a decrease in the fair value of warrants that are accounted as a financial liability.

Can-Fite's loss for the three months ended March 31, 2015 was NIS 1.51 million (U.S. $0.38 million) compared with a loss of NIS 6.26 million (U.S. $1.57 million) for the same period in 2014. The decrease in net loss for the first quarter of 2015 was attributable both to an increase in finance income, net, and a decrease in operating expenses.

As of March 31, 2015, Can-Fite had cash and cash equivalents of NIS 35.68 million (U.S. $8.96 million) as compared to NIS 36.09 million (U.S. $9.07 million) at December 31, 2014. The slight decrease in cash during the three months ended March 31, 2015 is due to NIS 5.14 million (U.S. $1.29 million) received from Cipher Pharmaceuticals as upfront payment for entering into the distribution agreement with Cipher offset by operating expenses.

For the convenience of the reader, the reported NIS amounts have been translated into U.S. dollars, at the representative rate of exchange on March 31, 2015 (U.S. $ 1 = NIS 3.98).

The Company's consolidated financial results for the three months ended March 31, 2015 are presented in accordance with International Financial Reporting Standards.

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, inflammatory disease and sexual dysfunction. The Company's CF101 recently completed its 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. The Company's CF602 has shown efficacy in the treatment of erectile dysfunction. Can-Fite has initiated a full pre-clinical program for CF602 in preparation for filing an IND with the U.S. FDA in this indication. 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, 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.

Contact

Can-Fite BioPharma
Motti Farbstein
info@canfite.com
+972-3-9241114

INTERIM CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

In thousands (except share and per share data)

	Convenience translation Into U.S. dollars.		
	March 31, 2015	March 31, 2015	December 31, 2014
	Unaudited	Unaudited	Audited
	USD	NIS	
ASSETS			
CURRENT ASSETS:			
Cash and cash equivalents	8,966	35,684	36,091
Accounts receivable	900	3,581	3,417
Total current assets	9,866	39,265	39,508
NON-CURRENT ASSETS:			
Lease deposits	4	17	26
Property, plant and equipment, net	42	166	133
Total long-term assets	46	183	159
Total assets	9,912	39,448	39,667

INTERIM CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

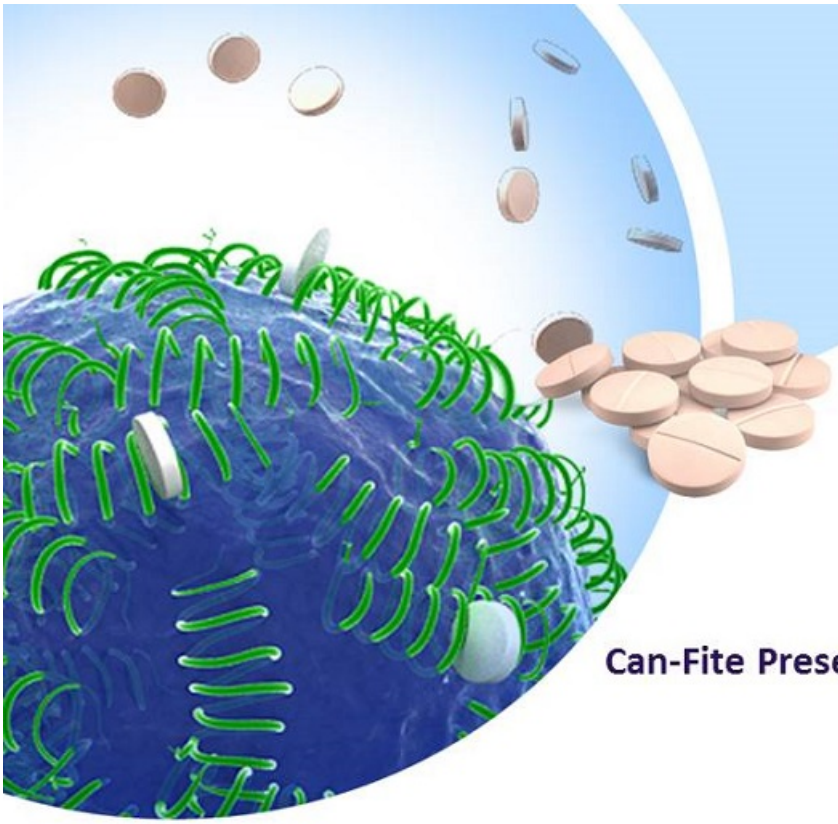
In thousands (except share and per share data)

	Convenience translation Into U.S. dollars		
	March 31, 2015	March 31, 2015	December 31, 2014
	Unaudited	Unaudited	Audited
	USD	NIS	
LIABILITIES AND SHAREHOLDERS' EQUITY			
CURRENT LIABILITIES:			
Trade payables	354	1,407	1,024
Deferred revenues	1,292	5,141	-
Other accounts payable	816	3,249	4,750
Total current liabilities	2,462	9,797	5,774
NON-CURRENT LIABILITIES:			
Warrants exercisable into shares	1,111	4,420	6,969
Severance pay, net	55	219	224
Total long-term liabilities	1,166	4,639	7,193
EQUITY ATTRIBUTABLE TO EQUITY HOLDERS OF THE COMPANY:			
Share capital	1,367	5,441	5,441
Share premium	75,826	301,787	301,787
Capital reserve from share-based payment transactions	4,315	17,175	17,153
Warrants exercisable into shares (series 9-12)	2,425	9,652	9,652
Treasury shares at cost	(912)	(3,628)	(3,628)
Accumulated other comprehensive loss	(303)	(1,207)	(1,015)
Accumulated deficit	(76,761)	(305,509)	(304,150)
Total equity attributable to equity holders of the Company	5,957	23,711	25,240
Non-controlling interests	327	1,301	1,460
Total shareholders' equity	6,284	25,012	26,700
Total liabilities and shareholders' equity	9,912	39,448	39,667

INTERIM CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In thousands (except share and per share data)

	Convenience translation into U.S. dollars	Three months ended March 31,	
	2015	2015	2014
		Unaudited	
	USD	NIS	NIS
Research and development expenses	585	2,328	3,825
General and administrative expenses	622	2,476	2,944
Operating loss	1,207	4,804	6,769
Finance expenses	4	17	16
Finance income	(833)	(3,316)	(527)
Net loss	378	1,506	6,258
Other comprehensive loss (income):			
Adjustments arising from translating financial statements of foreign operations	59	234	16
Remeasurement loss (gain) from defined benefit plans	-	-	1
Total other comprehensive loss (income)	59	234	17
Total comprehensive loss	437	1,740	6,275
Loss attributable to:			
Equity holders of the Company	341	1,359	6,026
Non-controlling interests	37	147	232
	378	1,506	6,258
Comprehensive loss attributable to:			
Equity holders of the Company	389	1,551	6,041
Non-controlling interests	48	189	234
	437	1,740	6,275
Net loss per share attributable to equity holders of the Company:			
Basic and diluted net loss per share	0.02	0.06	0.37



CAN-FITE BioPharma Ltd.

Can-Fite Presentation – May 2015

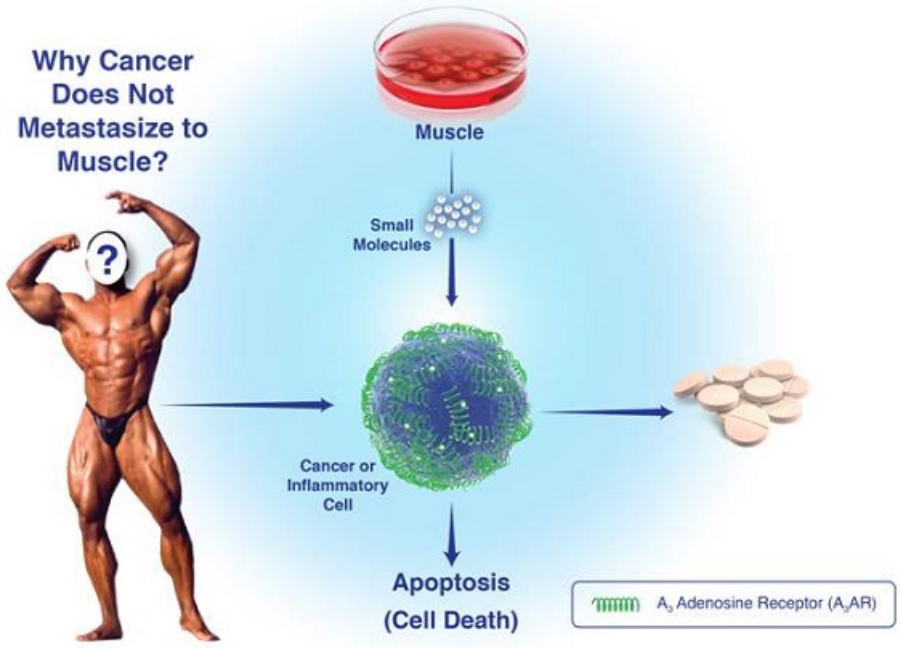
Forward Looking Statement

This presentation contains 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 Tel-Aviv Stock Exchange.

Company Profile

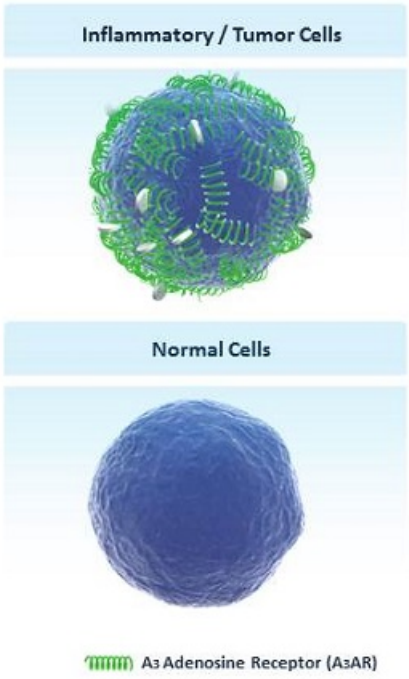
- **Advanced clinical stage drug development company**
  - Phase II and Phase II/III clinical studies
- **Small molecule drugs**
  - Autoimmune Inflammatory diseases
  - Cancer
  - Sexual Dysfunction
- **Company Operations**
  - Headquarters and Discovery Labs – Petach-Tikva, Israel
  - Drug Development & Clinical Operations – Boston, USA
- **Regional out-licensing deals**
  - Canada: for rheumatoid arthritis and psoriasis
  - Korea: for rheumatoid arthritis
  - Japan: for rheumatoid arthritis and other inflammatory diseases

From Concept to Technology



Platform Technology

- **Therapeutic Target**
  - A_3 adenosine receptor (A_3AR)
  - Highly expressed in inflammatory and cancer cells
- **Drug product**
  - Small molecules
  - Orally bioavailable drugs
- **Therapeutic Effect**
  - Anti-inflammatory and anti-cancer effects in Phase II studies; Excellent safety profile
- **A_3AR is utilized as Predictive Biomarker**
  - Used to predict patient's response to the drug

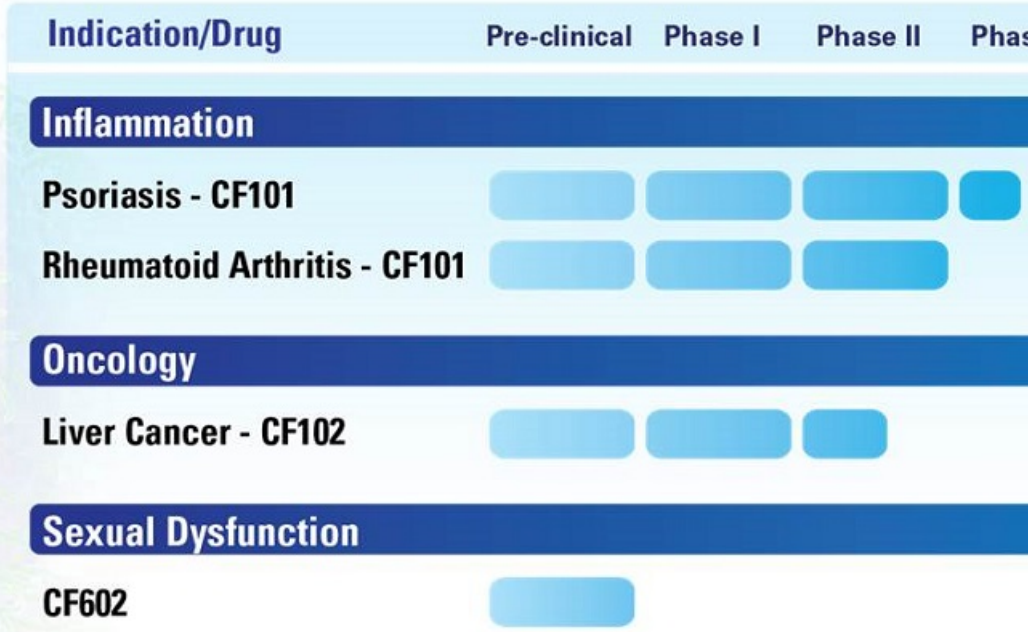


Targeted therapy, specifically aimed at diseased cells

(NYSE MKT:CANF) (TASE:CFBI)

CANFITE BioPharma Ltd.

Drug Development Pipeline



Corporate Partnership

Regional out-licensing deals

SEIKAGAKU CORPORATION [Traded on the Tokyo Stock Exchange (Ticker:4548)]

- Exclusive license to develop and commercialize CF101 in Japan
- Up to $20 M in upfront, milestone and annual payments ($7.5M received to date)
- Up to 12% royalties

KWANG DONG PHARMACEUTICAL CO.,LTD. [Traded on South Korean Stock Exchange (Ticker: A009290)]

- Exclusive regional license to develop and commercialize CF101 for the treatment of rheumatoid arthritis in Korea
- Up to $1.5 M in upfront and milestone payments ($0.5M received to date)
- 7% royalties. Such payments are subject to development and marketing milestones

cipher PHARMACEUTICALS INC [Traded on Nasdaq (Ticker: CPHR); TSX: (Ticker: CPH]

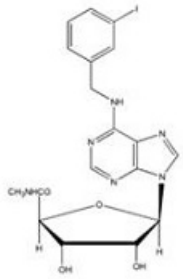
- Exclusive regional license to distribute CF101 for the treatment of rheumatoid arthritis and moderate to severe psoriasis in Canada
- Up to CDN$3.65M in upfront and milestone payments (CDN$1.65M received to date)
- 16.5% royalties.

CF101 – Anti-Inflammatory Effect

Properties

- Highly Selective A_3AR Agonist
- Nucleoside derivative
- Molecular weight - 510.29
- Water insoluble
- Orally bioavailable
- Half life time in blood – 8-9 hours
- Is not metabolized in the body

(secreted unchanged)



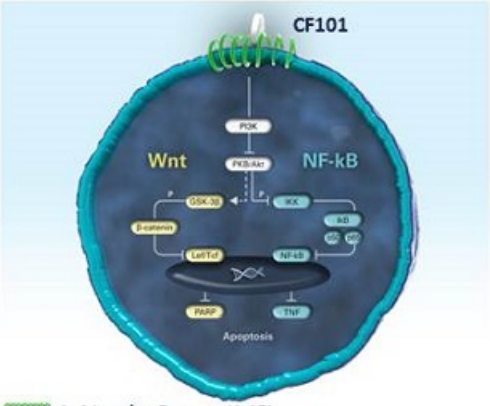
Fishman et al. Drug Discovery Today 17:359-366. 2011.

Anti-Inflammatory Effect

Proof of concept in pre-clinical pharmacology studies:

- Rheumatoid Arthritis
- Osteoarthritis
- Inflammatory Bowel Disease
- Uveitis

Mechanism of Action

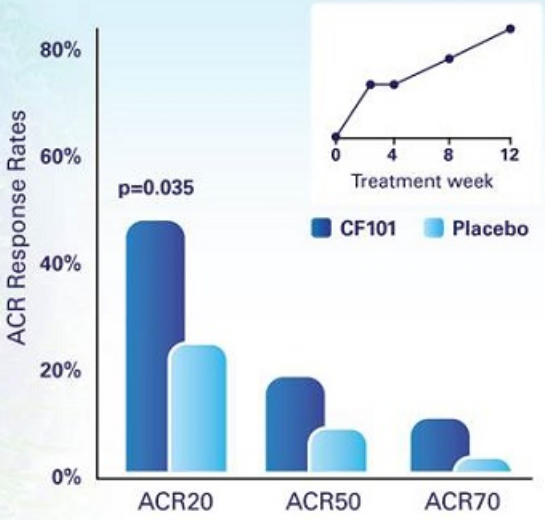


A_3 Adenosine Receptor (A_3AR)

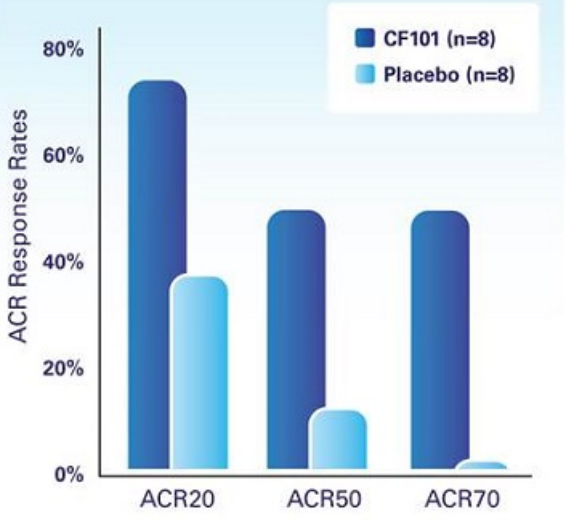
Rheumatoid Arthritis - Positive Data from Phase II Study

Phase IIb study, Placebo controlled, 79 patients, enrolled based on the biomarker

All Patients



Patients with No Prior Systemic Therapy



A phase III study design has been completed

(NYSE MKT:CANF) (TASE:CFBI)

CANFITE BioPharma Ltd.

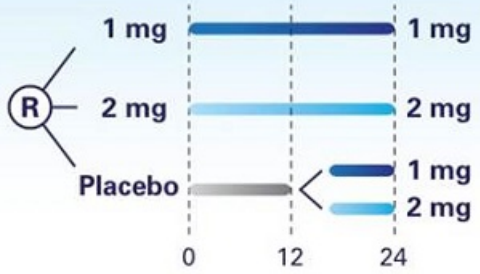
CF101 - Psoriasis

Phase II/III - Study Protocol

- Double-blind, placebo-controlled study to test efficacy of CF101 in 300 patients with moderate-to-severe plaque psoriasis
- 3 arms: 1 mg, 2 mg and of CF101 and placebo
  - All patients receiving placebo were switched to either

    1 mg or 2 mg CF101 after 12 weeks
- Study duration 24 weeks
- Interim analysis after 1oo patients

Study Scheme

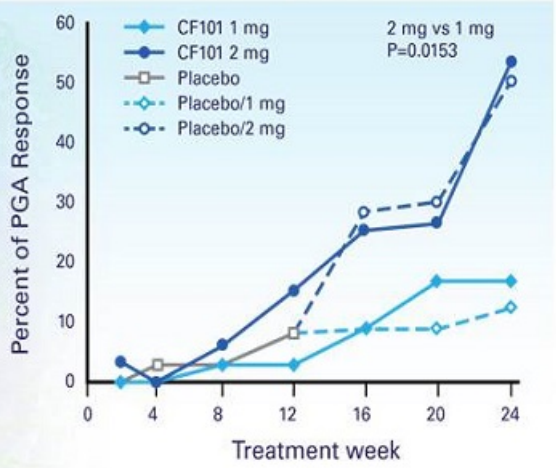


Primary End Point

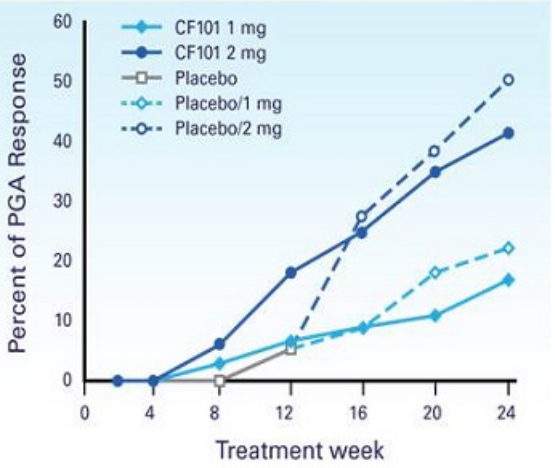
- PASI 75 after 12 weeks
- Safety parameters

Psoriasis - Interim Analysis Data

PGA



PASI 75



Psoriasis Phase II/III – Segment 2

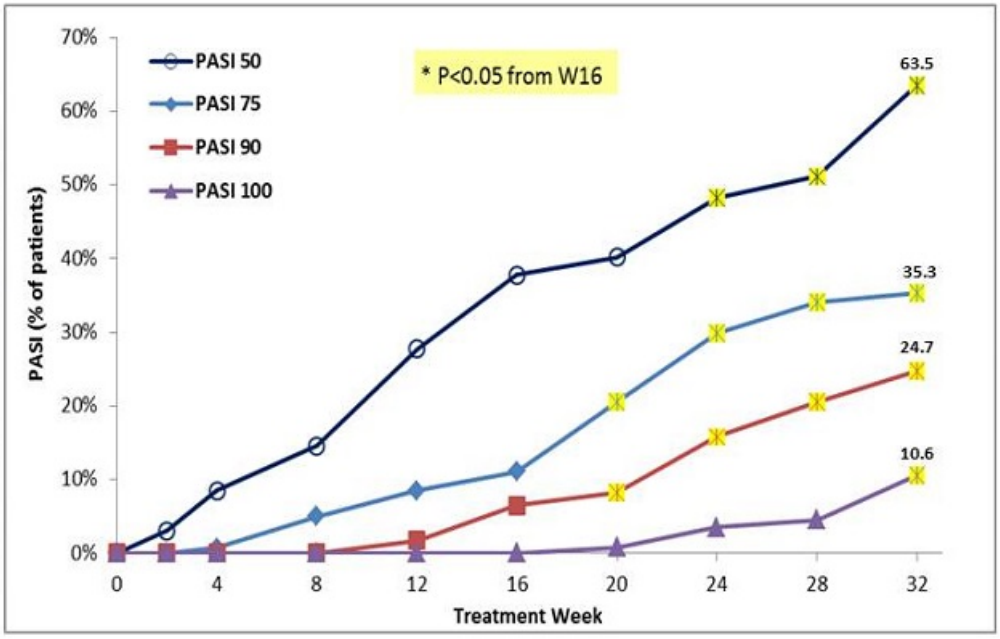
- Based on the interim analysis data patients were randomized into the 2 mg and the placebo groups
- The study period has been extended to 32 weeks
- >200 patients have been enrolled and data released

Psoriasis – Data from Phase II/III Study

- The study did not achieve the primary endpoint of significant improvement in PASI 75 at 12 weeks.
- Excellent safety profile in all tested dosages
- **Weeks 12 to 32 Positive Data Findings:**
  - **PASI 75** - 35.3% by 32 weeks of treatment; linear response
  - **PASI mean percent improvement** - 57% ($p<0.001$); linear from 16 to 32 weeks.
  - **PASI 90 and PASI 100** – 24.7% and 10.6%, respectively by 32 weeks of treatment; linear increase.
  - **Historical placebo responses** - very rare at PASI 90 and PASI 100.
  - **Systemic treatment-naive patients** - efficacy appears particularly high with PASI 90 scores achieved in 26.9% of patients previously untreated with systemic therapy vs. patients previously treated with systemic therapy ($p<0.026$).

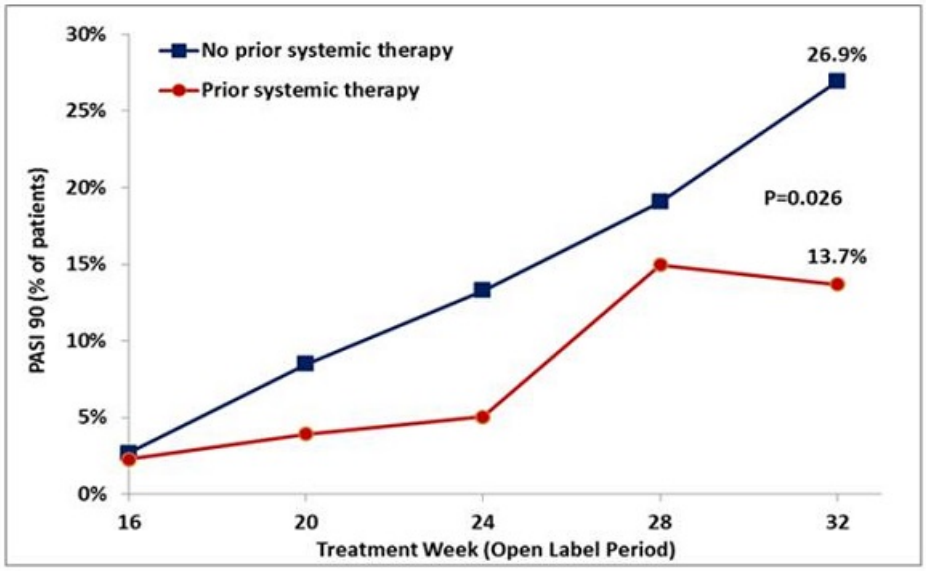
PASI Scores – Linear Improvement Over 32 Weeks

PASI Scores through 32 Weeks of CF101 Treatment



PASI 90 Response in Treatment-Naïve Patients

Statistically Significant PASI 90 Response



CF101 Compares Favorably To Celgene's Otezla

	PASI Improvement from Baseline	PASI 90	PASI 100
CF101, Can-Fite	57.1% at week 32 no plateau at week 32	24.7% at week 32 no plateau at week 32	10.6% at week 32 no plateau at week 32
Otezla*, Celgene	~57% at week 24 start to plateau at week 20	11.4% at week 16 16.7% at week 24	Not analyzed as there were too few participants at week 16
Placebo (historical)	Unknown	0.0%	0.0%

(NYSE MKT:CANF) (TASE:CFBI)

* Source: clinicaltrials.gov

CAN-FITE BioPharma Ltd.

CF101 Safety Data – Comparable to Placebo

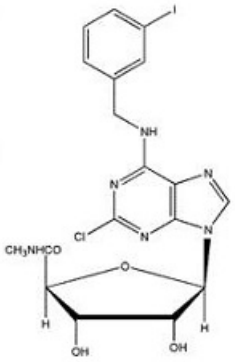
	CF101 2 mg BID	Placebo BID
Vital Signs	No significant change	No significant change
ECG	No significant change	No significant change
Clinical Laboratory	No significant change	No significant change
Any Adverse Event (AE)	25.5%	19.6%
Infection AE	6.9%	8.8%
"Related" AE	6.9%	4.1%
Moderate-Severe AE	7.6%	5.4%
Withdrawal due to AE	0.0%	0.7%

CF101 Continues to Show an Excellent Safety Profile

CF102 – Anti-Cancer

Properties

- Highly Selective A3AR Agonist
- Nucleoside derivative
- Molecular weight - 544.73
- Water insoluble
- Orally bioavailable
- Half life time in blood – 12 hours

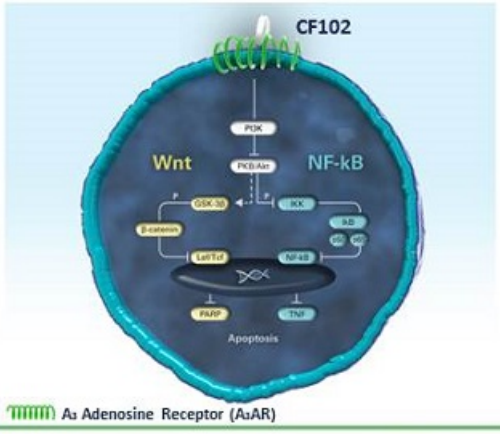


Anti-Cancer Effect

Proof of concept in pre-clinical pharmacology studies:

- Hepatocellular Carcinoma
- Colon Carcinoma
- Prostate Cancer
- Melanoma

Mechanism of Action



A₃ Adenosine Receptor (A₃AR)

Liver Cancer – Phase II Global Study Ongoing

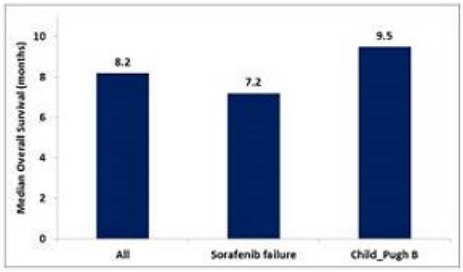
Phase II - Ongoing

Patient enrolment for a global Phase II study has been initiated and designed as follows:

- Second-Line Treatment
- Advanced Hepatocellular Carcinoma; Child-Pugh B
- 78 patients;
- US, Europe and Israel

Phase I/II Positive Results

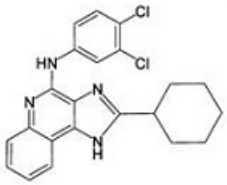
- Very favorable safety profile and lack of hepatotoxicity
- Prolongation of survival time
- Regression of skin tumor metastases
- Stable disease (22%)
- Proof of concept for A3AR utilization as a biomarker
- U.S. FDA Orphan Drug Approval (Feb 2012)



Stemmer et al. The Oncologist, 2012

CF602 – Sexual Dysfunction

Chemical Structure



1*H*-Imidazo[4,5-c]quinolin-4-amine Derivatives

Properties

- A_3AR allosteric modulator
- Molecular weight – 411.34
- Water insoluble
- Orally bioavailable
- Belong to the family of imidazoquinoline derivatives

Current status

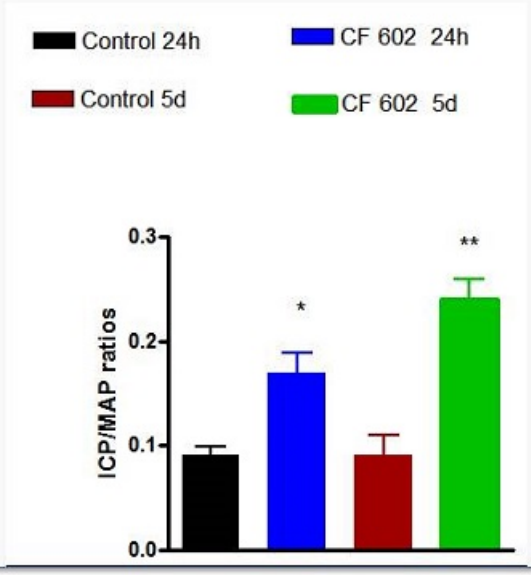
- Manufacturing of CF602 to be used in pre-clinical studies has been completed
- Pre-Clinical studies – ongoing

Cohen et al. Mediators of Inflammation. 2015

CF602 – Improvement of Erectile Dysfunction

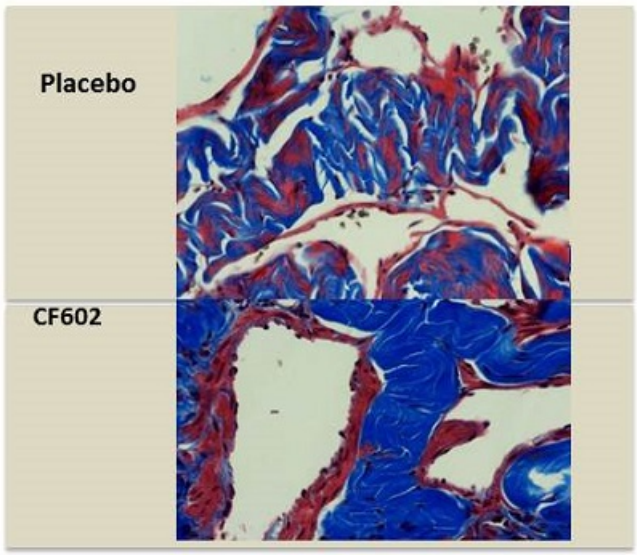
Diabetic Rat Model

Intra-cavernous pressure (ICP)/mean arterial pressure (MAP) ratios



CF602 – Mechanism of Action

CF602 acts as a vaso-relaxant
to promote smooth muscle relaxation and penile erection



Histological evaluation using a Masson Trichrome stain for smooth muscle detection in Corpus Cavernous blood vessels in an erectile dysfunction model in diabetic rats

Spotlight on 12 Month Milestones

Milestone	When	Estimated Market Size*
Entry into an Acquisition Agreement with a Medical Device Company by Can-Fite Subsidiary OphthaliX	Q2/2015	N/A
Submission of Phase III Rheumatoid Arthritis Clinical Study Protocol to IRB	Q4/2015	$38B in 2017
Completion of Psoriasis Clinical Study Protocol	H2/2015	$8.9B in 2018
Completion of Working Plan for Phase I Sexual Dysfunction Trial	Q1/2016	$2.6B in 2018
Completion of Patient Enrollment for Phase II Liver Cancer Trial	H1/2016	$2B in 2015
Data Release - Phase II Glaucoma Trial from OphthaliX	H1/2016	$3B in 2010

Sources: Visiongain, GlobalData, Global Industry Analysts