

PROSPECTUS SUPPLEMENT NO. 3
(To Prospectus dated September 30, 2014)

CAN-FITE BIOPHARMA LTD.

1,490,378 Ordinary Shares represented by 745,189 American Depositary Shares

This Prospectus Supplement No. 3 is required to be delivered by certain holders of the above-referenced shares or by their transferees, pledges, donees or their successors in connection with the offer and sale of the above-referenced shares.

This Prospectus Supplement No. 3 supplements the Prospectus dated September 30, 2014 of Can-Fite Biopharma Ltd. (the "Company"), as amended by Prospectus Supplement No. 1 dated October 2, 2015 and Prospectus Supplement No. 2 dated January 19, 2016, with the following addition and change:

- (1) Amend the selling shareholders' information set forth in the Prospectus.

The attached information modifies and supersedes, in part, the information in the Prospectus. Any information that is modified or superseded in the Prospectus or any amendment or supplement thereto, shall not be deemed to constitute a part of the Prospectus except as modified or superseded by this Prospectus Supplement No. 3. This Prospectus Supplement No. 3 should be read in conjunction with the Prospectus, as amended by Prospectus Supplement No. 1 and Prospectus Supplement No. 2.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 7 OF THE PROSPECTUS, AND ANY OF OUR OTHER FILINGS INCORPORATED THEREIN BY REFERENCE.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS SUPPLEMENT IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus Supplement is June 28, 2016.

AMENDMENT TO SELLING SHAREHOLDER INFORMATION

This Prospectus Supplement No. 3 is being filed in connection with changes to the selling shareholders information as set forth in the Prospectus. Specifically, Midsummer Small Cap Master, Ltd. assigned a warrant to purchase 97,087 ordinary shares represented by 48,543.5 American Depositary Shares, or ADSs, to OTA LLC.

As a result, this Prospectus Supplement No. 3 is being filed to amend the selling shareholders' table in the Prospectus so that it reflects the changes to such table resulting from the above-described assignment.

All other information in the Prospectus shall remain unchanged. Percentage of beneficial ownership was calculated based on 27,672,901 ordinary shares outstanding as of June 27, 2016. This Prospectus Supplement No. 3 reflects only the total number of ordinary shares registered for resale by the subject selling shareholder described herein, and we note that it does not reflect sales of ordinary shares by such selling shareholder pursuant to the Prospectus that may have occurred prior to the date of this Prospectus Supplement No. 3.

Selling Shareholder	Number of Ordinary Shares Owned Prior to Offering	Maximum Number of Ordinary Shares to be Sold Pursuant to this Prospectus	Number of Ordinary Shares Owned After the Offering	Percentage of Ordinary Shares Owned After the Offering
OTA LLC (14)	48,543.5(15)	97,087(15)	0	0

- (14) Ira Leventhal, a senior managing director of the selling shareholder has voting and investment control over the reported securities. OTA LLC, or OTA, is a broker-dealer registered with the Securities and Exchange Commission and a member of the Financial Industry Regulatory Authority. OTA is an underwriter with respect to its shares of common stock to be sold in this offering.
- (15) Represents 97,087 ordinary shares represented by 48,543.5 ADSs issuable upon exercise of warrants issued in our March 2014 financing held by OTA.
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