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 October 2014

Commission File Number 000-30902

COMPUGEN LTD.

(Translation of registrant's name into English)

72 Pinchas Rosen Street Tel-Aviv 6951294, Israel (Address of Principal Executive Offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-For 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):

Compugen Ltd.

Compugen Ltd. ("Compugen") disclosed today that it has achieved a second milestone pursuant to the cancer immunotherapy collaboration and license agreement (the "Agreement") it entered on August 5, 2013 with Bayer HealthCare ("Bayer").

The on-going collaboration provides for the development and commercialization of therapeutic antibodies against two checkpoint protein candidates discovered by Compugen. The milestone announced today relates to the second preclinical milestone for one of the two checkpoint protein candidates for which Compugen will receive a \$6 million payment out of the \$30 million potential milestone payments associated with the joint preclinical research for the two programs.

The Agreement provides the framework for the research, development, and commercialization of antibody-based therapeutics for cancer immunotherapy against two novel Compugen-discovered immune checkpoint regulators. Under the terms of the Agreement, Bayer and Compugen are jointly pursuing a preclinical research program for each of the two candidates. Subsequently, Bayer will have full control over further development, and have worldwide commercialization rights for potential cancer therapeutics.

Under the terms of the Agreement, Compugen has received an upfront payment of \$10 million and is eligible to receive over \$500 million in potential milestone payments for both checkpoint programs, plus an additional \$30 million of potential milestone payments associated with joint preclinical research for the two programs, which includes payments related to the two milestones achieved to date. Compugen is also eligible to receive royalties on global net sales from any resulting products under the collaboration.

The information contained in this Report is hereby incorporated by reference into the Company's Registration Statements on Form F-3, File Nos. 333-185910 and 333-198368.

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.

COMPUGEN LTD.

Date: October 14, 2014

/s/ Tami Fishman Jutkowitz
Tami Fishman Jutkowitz

General Counsel



For Immediate Release

Compugen Achieves Second Preclinical Milestone in Cancer Immunotherapy Collaboration with Bayer

Tel Aviv, Israel – Oct. 14, 2014, Compugen Ltd. (NASDAQ: CGEN) disclosed today that it has achieved a second milestone in its cancer immunotherapy collaboration it entered last year with Bayer HealthCare (Bayer). The collaboration provides for the research, development, and commercialization of antibody-based cancer therapeutics against two novel Compugendiscovered immune checkpoint regulators. The milestone being announced today relates to the second preclinical milestone for one of the checkpoint protein candidates. The achievement of the initial milestone for this candidate was announced in July of this year.

About the Compugen/Bayer HealthCare Collaboration and License Agreement

Under the terms of a collaboration and license agreement signed in August 2013, Compugen and Bayer are jointly pursuing a preclinical research program for antibody-based cancer immunotherapy against two novel Compugen-discovered immune checkpoint regulators. Subsequently, Bayer will have full control over further development and have worldwide commercialization rights for potential cancer therapeutics. Compugen received an upfront payment of \$10 million and is eligible to receive over \$500 million in potential milestone payments for both checkpoint programs, plus an additional \$30 million of potential milestone payments associated with joint preclinical research for the two programs, which includes payments related to the two milestones achieved to date. Compugen is also eligible to receive royalties on global net sales from any resulting products under the collaboration.

About Cancer Immunotherapy

Latest cancer immunotherapies have demonstrated impressive clinical benefit, even for end-stage patients with difficult-to-treat tumors such as metastatic melanoma and non-small cell lung cancer. Unlike conventional cancer therapies, which act by directly targeting the cancer cells, often resulting in only transient clinical responses as cancer cells become resistant, clinical responses to cancer immunotherapy tend to be durable, sometimes resulting in dramatic long-term survival and the absence of resistance or recurrences.

About Compugen

Compugen is a leading drug discovery company focused on therapeutic proteins and monoclonal antibodies to address important unmet needs in the fields of oncology and immunology. The Company utilizes a broad and continuously growing integrated infrastructure of proprietary scientific understandings and predictive platforms, algorithms, machine learning systems and other computational biology capabilities for the *in silico* (by computer) prediction and selection of product candidates, which are then advanced in its Pipeline Program. The Company's business

model includes collaborations covering the further development and commercialization of product candidates at various stages from its Pipeline Program and various forms of research and discovery agreements, in both cases providing Compugen with potential milestone payments and royalties on product sales or other forms of revenue sharing. Compugen's wholly-owned U.S. subsidiary located in South San Francisco is developing oncology and immunology monoclonal antibody therapeutic candidates against its drug targets. For additional information, please visit Compugen's corporate website at www.cgen.com.

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including statements related to the potential for development and commercialization of therapeutic products pursuant to the Bayer collaboration and the potential for Compugen to receive additional payments under the collaboration. Forward-looking statements can be identified by the use of terminology such as "will", "may", "expects", "potential", "anticipates", "believes" and "intends," and describe opinions about future events. These forward-looking statements involve known and unknown risks and uncertainties that may cause the actual results, performance or achievements of Compugen to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Some of these risks are: changes in relationships with collaborators; the inability to reach mutually agreeable terms and conditions with respect to potential new collaborations; the impact of competitive products and technological changes; risks relating to the development of new products; and the ability to implement technological improvements. These and other factors are discussed in the "Risk Factors" section of Compugen's most recent Annual Report on Form 20-F as filed with the Securities and Exchange Commission as well as other documents that may be subsequently filed by Compugen from time to time with the Securities and Exchange Commission. In addition, any forward-looking statements represent Compugen's views only as of the date of this release and should not be relied upon as representing its views as of any subsequent date. Compugen does not assume any obligation to update any forward-looking statements unless required by law.

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