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 December 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.

On December 18, 2014, Compugen Ltd. (the "Company") issued a press release announcing that the Company has entered an Immuno-Oncology research collaboration with Johns Hopkins University

A copy of the press release is filed as Exhibit 99.1 to this Form 6-K and incorporated by reference herein.

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.

Exhibits

Exhibit Number	**Description of Exhibit**
99.1	Press Release, dated December 18, 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.

COMPUGEN LTD.

Date: December 18, 2014

By: /s/ Ari Krashin
Ari Krashin
CFO

Exhibit 99.1

FOR IMMEDIATE RELEASE

Compugen Enters Immuno-Oncology Research Collaboration with Johns Hopkins University

Collaboration under direction of Prof. Drew Pardoll and Dr. Charles Drake to focus on further evaluation of B7/CD28-like immune checkpoints discovered by Compugen

Tel Aviv, Israel - December 18, 2014 --- Compugen Ltd. (NASDAQ: CGEN) today announced the initiation of a multi-year research collaboration with Johns Hopkins University, School of Medicine, under the direction of Prof. Drew Pardoll and Dr. Charles Drake. Prof. Pardoll and Dr. Drake, members of Compugen's Scientific Advisory Board, are pioneers in the field of immuno-oncology. The collaboration will focus on further evaluation of selected novel B7/CD28-like immune checkpoint candidates discovered by Compugen for the potential treatment of cancer. This evaluation will include the candidates' differentiation profile with respect to known checkpoints and their potential to serve either for monotherapy or in combination with other cancer treatments.

This collaborative research will expand Compugen's ongoing assessment of the biology and mechanism of actions of its novel B7/CD28-like immune checkpoint proteins, and provide access to the world-class immuno-oncology research tools and expertise at Johns Hopkins University. The specific studies under the collaboration will assist Compugen in further substantiating the potential of its novel proteins as targets for cancer immunotherapy. It is anticipated that the results of this collaboration will significantly broaden the underlying scientific knowledge of Compugen's targets and will support their translation toward the clinic.

Dr. Anat Cohen-Dayag, President and CEO of Compugen, stated "Prof. Pardoll and Dr. Drake are recognized as world leaders in the field of immuno-oncology. We are very enthusiastic to be collaborating with them and with Johns Hopkins University in this comprehensive research program to further characterize and differentiate our novel cancer immunotherapy B7/CD28-like candidates. We anticipate that this research will provide important insights for the continuing development by us and our potential future partners of our therapeutic candidates in the exceptionally promising field of cancer immunotherapy."

Prof. Pardoll stated, "In this intensely researched area of immune checkpoints, it is remarkable that Compugen, through the use of its unique predictive methodologies, has discovered such a large number of novel and highly promising immune checkpoint candidates. Although these programs are at early stages, we very much look forward to collaborating with the scientists at Compugen in order to add to the understanding of these novel checkpoints and assess their potential applications in immuno-oncology."

Dr. Drake added, “Immunotherapy is dramatically changing the landscape for cancer treatment, but current therapies appear to address only a small percentage of patients. It is widely believed that the availability of monoclonal antibody drugs addressing additional checkpoint targets will significantly broaden the applicability of this breakthrough approach. Therefore, the large number of novel checkpoint candidates discovered to date by Compugen represents a potential major contribution to this rapidly growing field.”

The selected immune checkpoint candidates included in this collaboration are part of the eleven B7/CD28-like proteins discovered to date by Compugen through the use of its broadly applicable and unique predictive discovery infrastructure. The different characteristics and potential mechanisms of action of these novel candidates as demonstrated in past and ongoing validation studies, show that these drug target candidates have the potential to give rise to multiple first-in-class cancer immunotherapies.

Prof. Pardoll is Abeloff Professor of Oncology, Medicine, Pathology and Molecular Biology and Genetics at Johns Hopkins University School of Medicine and the Director of the Cancer Immunology Program in the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins. For the past two decades, Prof. Pardoll has studied molecular aspects of immune regulation, particularly related to mechanisms by which cancer cells evade elimination by the immune system. Prof. Pardoll has made seminal advances in immunology, including the discovery of new types of immune cells and regulatory mechanisms.

Dr. Drake specializes in cancer immunotherapies, focusing on immune checkpoints and cancer vaccines. He has significant experience conducting clinical trials involving these therapies. He is Co-Director of the Multi-disciplinary Prostate Cancer Clinic at Johns Hopkins Kimmel Cancer Center in Baltimore, Maryland, and is an Associate Professor, Medical Oncology, Immunology, and Urology. Dr. Drake is also a member of the Prostate Cancer Foundation Scientific Advisory Board.

About Immune Checkpoints
Immune checkpoints are inhibitory receptors and their ligands, which are crucial for the maintenance of self-tolerance (that is, the prevention of autoimmunity) and for the protection of tissues from damage when the immune system is responding to pathogenic infection or other injuries. Immune checkpoints, which are "hijacked" by tumors to block the ability of the immune system to destroy the tumor (immune resistance), have lately emerged as "game changers" and promising targets for cancer immunotherapy. Therapeutic blockade of immune checkpoints can boost anti-tumor immunity, enabling the patient’s immune system to recognize and attack the tumor cells, and mount durable anti-tumor responses and tumor destruction.

The blockade of immune checkpoints unleashes the potential of the anti-tumor immune response in a fashion that is transforming cancer therapeutics. Checkpoint-blocking antibodies have lately demonstrated impressive clinical benefits and long-term survival, even for end-stage patients, raising hopes that this novel approach will lead to effective therapeutic strategies and valuable additions in the fight against cancer.

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 monoclonal antibody therapeutic candidates against its drug targets. For additional information, please visit Compugen's corporate website at www.cgen.com.

Forward-Looking Statement
This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by the use of terminology such as "will," "may," "expects," "anticipates," "believes," and "intends," and describe opinions about future events and include statements related to the research collaboration to be undertaken with Johns Hopkins University to assist Compugen in assessing the potential of its novel B7/CD28-like immune checkpoint proteins; in broadening the knowledge of these novel checkpoints; in supporting the translation towards the clinic of Compugen's novel proteins as targets for cancer immunotherapy, either as monotherapy or combination treatments; and in broadening the immunotherapy approach by generating monoclonal antibody drugs addressing additional checkpoint targets. 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.

Media contact for Compugen:
Tsipi Haitovsky
Global Media Liaison
Compugen Ltd.
Email: tsipih@cgen.com
Tel: +972-52-598-9892