

FORM 6-K
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Report of Foreign Private Issuer

Pursuant to rule 13a-16 or 15d-16 of the Securities Exchange Act of 1934
for the month of October 25, 2011

Compugen Ltd.
(Translation of registrant's name in English)

72 Pinchas Rosen Street, Tel-Aviv 69512, 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 X

Form 40-F ____

On October 25, 2011, Compugen Ltd. (the "Registrant") issued a Press Release, filed
as Exhibit 1 to this Report on Form 6-K, which is hereby incorporated by reference
herein.

SIGNATURE

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.
(Registrant)
By: Ms. Dikla Czaczkes Axselbrad
Title: Chief Financial Officer
Date: October 25, 2011



Compugen's CGEN-15001 Pre-Clinical Data Presented at International Conference on Immune Tolerance

Data presented show dramatic improvement of disease symptoms and abolishment of spontaneous relapses in animal model of multiple sclerosis

Tel Aviv, Israel, October 25, 2011 --- Compugen Ltd. (NASDAQ: CGEN), announced today that CGEN-15001 was the subject of a presentation by Joseph Podojil, Ph.D. of the Feinberg School of Medicine Northwestern University, at the 2nd International Conference on Immune Tolerance, now being held in Amsterdam. This is the first time that scientific information related to CGEN-15001's therapeutic potential is being presented to the scientific community. In his talk, Dr. Podojil presented data demonstrating that administration of CGEN-15001 in the experimental autoimmune encephalitis (EAE) animal model of multiple sclerosis (MS) resulted in a dramatic improvement of disease symptoms and abolishment of spontaneous relapses. In addition, the study results demonstrated that short-term treatment with CGEN-15001 lead to long-term inhibition of disease symptoms as well as of the underlying spread of pathological immune responses.

Dr. Podojil, a Research Assistant Professor in the laboratory of Professor Stephen Miller at Northwestern University, showed that CGEN-15001 appears to exert its beneficial therapeutic effect by modulating the immune system and preventing infiltration of reactive immune T cells into the central nervous system. CGEN-15001 thereby inhibits the underlying mechanisms which cause the debilitating disease symptoms and its relapsing nature. Similar beneficial effects were observed in two MS models, an EAE model actively induced by immunization with a myelin antigen and an adoptive transfer EAE model created by injection of immune cells specifically reactive to myelin. The results reported are from studies performed under an agreement with Northwestern University and Prof. Miller, a leading scientist in the fields of immunology and autoimmune diseases who supervised the studies.

In his talk, Dr. Podojil presented data demonstrating that the effects of CGEN-15001 include modulating the activity of a sub-group of white blood cells called T helper cells, which are known to provide signals for orchestrating the immune response. In particular, CGEN-15001 inhibits the pro-inflammatory T helper cells Th1 and Th17, while at the same time promoting anti-inflammatory Th2 responses. T cell modulation can be therapeutically beneficial in the treatment of T cell mediated autoimmune diseases.

Anat Cohen-Dayag, Ph.D., Compugen's president and CEO said, "The remarkable beneficial effects observed with CGEN-15001 in animal models for MS, and its ability to correctly modulate the activity of the immune system, offer hope that we have managed to alter the very mechanisms underlying the disease. CGEN-15001 has also shown a significant therapeutic effect in an animal model of rheumatoid arthritis, and we believe that this powerful modulator of the immune system has great promise as a drug for a variety of additional autoimmune diseases, such as systemic lupus erythematosus, inflammatory bowel disease and type 1 diabetes. We are pleased with the continuing progress in the pre-clinical development of this promising drug candidate."

About CGEN-15001 and the B7/CD28 protein families

CGEN-15001 is a novel protein drug candidate consisting of the extracellular region of CGEN-15001T, a previously unknown membrane protein predicted by Compugen to be a member of the B7/CD28-family fused to a mouse antibody Fc domain. CGEN-15001T was discovered using Compugen's Protein Family Members Discovery Platform, and was predicted to have immunomodulatory function based on its bioinformatic characteristics. To date, utilization of this predictive platform by Compugen has resulted in the discovery of nine proteins, including CGEN-15001T, predicted to serve as novel members of this family.

Members of the B7/CD28 protein families have been intensively studied over the past decade as positive and negative regulators of the immune response. A growing body of evidence indicates that the dysfunction of immune regulation contributes to the development of autoimmune diseases.

Positive and negative co-stimulatory pathways play critical roles in immune regulation and are considered potential targets for modulating chronic inflammation in autoimmune diseases. To date, one soluble recombinant fusion protein that selectively blocks the co-stimulatory signal mediated by the prototype B7/CD28 pathway has been cleared for marketing in the U.S. for the treatment of moderate to severe rheumatoid arthritis, and is in clinical trials for other autoimmune indications. In addition, a number of clinical and preclinical studies for therapeutic agents targeting these protein families are underway at various companies.

About Multiple Sclerosis

Multiple sclerosis is an autoimmune disease that affects the central nervous system, and is caused by damage to the myelin sheath, the protective covering that surrounds nerve cells. When this nerve covering is damaged, nerve impulses are slowed down or stopped. The nerve damage is caused by inflammation, which occurs when the body's own immune cells attack the nervous system. In MS, the immune response is primarily mediated by T cells, that gain entry into the brain via the blood-brain barrier, but the trigger to this inflammatory process remains unknown. It is common for the disease to return (relapse). However, the disease may continue to get worse without periods of remission. Currently there is no cure for MS, but several drugs are used for controlling and managing the disease.

About Compugen

Compugen is a leading therapeutic product candidate discovery company, currently focused on biologics-based therapy to address important unmet needs in the fields of immunology and oncology, either for Compugen or its partners. Unlike traditional high throughput trial and error experimental based drug candidate discovery, Compugen's discovery efforts are based on systematic and continuously improving in silico (by computer) product candidate prediction and selection followed by experimental validation, with selected product candidates being advanced in its Pipeline Program to the pre-IND stage. Compugen's in silico predictive models utilize a broad and continuously growing infrastructure of proprietary scientific understandings and predictive platforms, algorithms, machine learning systems and other computational biology capabilities. The Company's business model primarily involves collaborations covering the further development and commercialization of Compugen-discovered product candidates and various forms of "discovery on demand" arrangements, in both cases providing Compugen with potential milestone payments and royalties on product sales or other forms of revenue sharing. In 2002, Compugen established an affiliate, Evogene Ltd. (www.evogene.com) (TASE: EVGN.TA), to utilize certain of the Company's in silico predictive discovery capabilities in agricultural biotechnology. For additional information, please visit Compugen's corporate website at www.cgen.com.

This press release may contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These statements include words such as “may”, “expects”, “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 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 identified and more fully explained under the heading “Risk Factors” in Compugen's annual reports filed with the Securities and Exchange Commission.

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