COMPUGEN LTD
Form 6-K
October 19, 2006

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 2006

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 19, 2006 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: /s/ Nurit Benjamini

Title: Chief Financial Officer

Date: October 19, 2006

Exhibit 1

Compugen Discloses Status of In Silico Discovered

Therapeutic Candidates

Molecules targeted at various cancers, inflammatory diseases and

cardio-vascular indications

Tel Aviv, Israel - October 19, 2006 - Compugen Ltd. (Nasdaq:CGEN) announced today the successful demonstration of functional activity for splice variants of c-Met receptor, MCP1 chemokine, and ANP hormone. The existence of these potential therapeutic candidates had initially been predicted *in silico* utilizing a Compugen discovery engine. These drug candidates are of potential use in the treatment of various types of cancer, inflammatory diseases, and cardiovascular indications, respectively.

The discovery engine that predicted these molecules was the Company`s first therapeutics discovery engine, based on Compugen`s long term leadership in the field of alternative splicing. This engine was designed to identify novel splice variants of known clinically-related proteins through the analysis of a proprietary predictive model of the human transcriptome. The *in silico* discovery, followed by initial biological assessment, resulted in twelve candidate molecules that showed biological activity in cell based assays. The candidates were then prioritized, and five were selected for further biological evaluation using both additional *in vitro* assays and *in vivo* animal models. Based on these results, three out of the five have now been selected for further advancement.

"We are very pleased with this further validation of the power of Compugen`s discovery engines and with meeting our objective of successfully completing the selection and biological assessment of our initial group of therapeutic candidates before year end 2006," said Noam Shani, Ph.D., Compugen`s Vice President Therapeutics. "Based on the positive results of this assessment, the Company is now initiating discussions with potential licensees and joint development partners."

CGEN-241: An antagonistic soluble variant of the c-Met receptor

The protein product of the c-Met oncogene is the tyrosine kinase receptor for hepatocyte growth factor (HGF), and Compugen has discovered soluble variants of this receptor. The HGF-Met pathway is involved in a wide range of biological functions, including cell proliferation and survival, cell migration and invasion, as well as angiogenesis. Inappropriate activation of this signaling pathway has been implicated in tumor development and progression of solid tumors and hematologic malignancies.

CGEN-241 is a truncated form of the c-Met receptor predicted by Compugen`s discovery engine to exist and be secreted from the cell. It comprises part of the extracellular domain and ends in a stretch of unique amino acids. In the assessment of the biological activity of CGEN-241 as an antagonist of the HGF-Met pathway in various assays and model systems, the molecule demonstrated strong inhibition of multiple functions related to the HGF-Met pathway. These included cell proliferation, motility and invasion - functions that are consistent with its potential use as an anti-tumorigenic and anti-metastatic biotherapeutic.

CGEN-54: An antagonistic variant of MCP1 (Monocyte Chemoattractant Protein 1)

MCP1 - also named CCL2 - belongs to the CC protein family and is induced in response to various inflammatory stimuli. Binding of this protein to its cognate receptor, CCR2, leads to the recruitment of specialized immune cells into the site of inflammation, unfortunately often leading to tissue destruction in chronic inflammatory diseases. The Compugen discovered molecule is a novel splice variant of MCP1 which has now been shown to inhibit MCP1 related activity.

The inhibition of the MCP1-CCR2 pathway represents a promising target to effectively modulate disease progression in chronic inflammatory diseases, such as multiple sclerosis. CGEN-54 is a truncated form of MCP1 that was found to antagonize the MCP1-CCR2 pathway both *in vitro* and *in vivo*. In cell culture assays, CGEN-54 was shown to inhibit MCP1-induced cell migration, whereas *in vivo*, CGEN-54 was shown to be effective in reducing experimentally induced peritonitis in mice.

CGEN-34: A splice variant of the ANP (Atrial Natriuretic Peptide) hormone

Compugen has identified an alternative splicing event in the gene that codes for the protein precursor of two natriuretic peptide hormones: atrial natriuretic peptide (ANP) and Urodilatin. These two peptide hormones are secreted by the heart and kidney, respectively, to decrease blood pressure and to increase water and salt excretion. While Urodilatin is still in clinical development, ANP and another member of the natriuretic peptide hormone family, BNP, are clinically available for the treatment of acute congestive heart failure.

Two forms of CGEN-34, based on the N-terminal differences between ANP and Urodilatin were analyzed. The biological activity of these two CGEN-34 variant forms has been demonstrated both *in vitro* and *in vivo*. Both variants have shown activation of the ANP cell receptor in rat lung membranes, and have also shown significant cardiovascular and renal effects in rats, including lowering blood pressure and heart rate, and increasing urine volume and sodium excretion. The significant effects exerted by these variants on hemodynamic and renal parameters *in vivo*, support their potential use as therapeutic agents for cardiac and renal indications.

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About Compugen

Compugen`s mission is to be the world leader in the discovery and licensing of product candidates to the drug and diagnostic industry. The Company`s powerful discovery engines enable the predictive discovery of numerous potential therapeutics and diagnostic biomarkers. This capability results from the Company`s decade-long pioneering efforts in the deeper understanding of important biological phenomena at the molecular level through the incorporation of ideas and methods from mathematics, computer science and physics into biology, chemistry and medicine. To date, Compugen`s product discovery efforts and its initial discovery engines have focused mainly within the areas of cancer, immune-related and cardiovascular diseases. The Company's primary commercialization pathway for its therapeutic and diagnostic product candidates is to enter into milestone and revenue sharing out-licensing and joint development agreements with leading companies. Compugen has established an agricultural biotechnology affiliate - Evogene, and a small-molecule drug discovery affiliate - Keddem Bioscience. 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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