COMPUGEN LTD
Form 6-K
February 20, 2007

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 February 2007

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 February 20, 2007 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: February 20, 2007

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Exhibit 1

Compugen Announces Discovery of Eight Novel G-Protein Coupled Receptor (GPCR) Peptide Ligands

Results from Initial Use of New Discovery Engine

to be Presented at Two Leading International Conferences

Tel Aviv, Israel - February 20, 2007 - Compugen Ltd. (NASDAQ: CGEN) announced today that it has developed a GPCR ligand discovery engine and that use of the engine to date has resulted in Compugen`s discovery of eight novel peptides that activate GPCRs. The new peptide ligands will be presented at Screening Europe (February 20-21, 2007, Barcelona, Spain) and at CHI`s Molecular Medicine Tri-Conference (February 27-March 2, San Francisco, CA).

GPCRs are membrane protein receptors that are involved in signal transduction of numerous physiological processes. GPCRs are by far the largest family of known drug targets, and at least 40% of drugs currently available are thought to act on GPCRs. Furthermore, newly discovered GPCR peptide ligands have in the past shown a high probability of being successfully developed into new drugs.

The new discovery engine utilized by Compugen in making these discoveries incorporates a proprietary model of the "peptidome", an *in silico* prediction of probable human peptides. Peptides are formed through the cleavage of precursor proteins, and Compugen`s proprietary peptidome - already consisting of thousands of novel human peptide sequences - is based on predicting cleavage sites in precursor proteins.

The discovery engine uses proprietary machine-learning algorithms to analyze the predictive peptidome and to date has identified hundreds of peptides likely to activate GPCRs. Thirty three of these peptides, all novel, have been synthesized and screened in a functional assay against a panel of 152 GPCRs. Eight peptides were shown to activate six different GPCRs in a concentration-dependent manner, including some for which there are no known endogenous ligands. The receptors for which novel ligands have been discovered include the MAS1 and MAS-related GPCRs,

MRGX1 and MRGX2, as well as FPRL1 and two of the Relaxin family receptors, RXFP1 and RXFP2.

"This is another example of how the capabilities that have been developed over the past decade at Compugen now allow us to address important unmet needs in drug discovery with unique predictive platforms. In this case, our initial use of a newly developed engine incorporating our predicted peptidome has resulted in the identification of eight novel GPCR peptide ligands. In addition, we believe that the hundreds of candidates that we haven`t yet tested hold potential for many similar discoveries," said Yossi Cohen, M.D., Vice President of Research and Development, Compugen Ltd. "Out of the eight ligands already discovered, we have selected two for further development at Compugen. Others are undergoing an evaluation process both for in-house development and for out-licensing opportunities."

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 diagnostic and therapeutic 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.

Company contact:

Naomi Rabbie

Corporate Communications Manager

Compugen Ltd.

Email: naomir@cgen.com

Tel: +972-52-598-9894