

**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 2008

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 12, 2008 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/ Ronit Lerner  
Title: Chief Financial Officer  
Date: February 12, 2008



## **Compugen Announces In-Vivo Results for Two Novel Peptide Agonists of MAS GPCR for Potential Treatment of Cardiovascular Pathologies**

*Peptides initially predicted using Compugen's GPCR ligand discovery engine*

**Tel Aviv, Israel – February 12, 2008** – Compugen Ltd. (NASDAQ: CGEN) announced today positive in-vivo results for two novel peptide agonists of the MAS G-protein coupled receptor (GPCR), indicating cardio-protective effects and therapeutic potential for the treatment of various cardiovascular and other pathologies. The two peptides – CGEN-856 and CGEN-857 – were identified using the Company's previously announced GPCR ligand discovery platform. The in-vivo results will be presented at the VII International Symposium on Vasoactive Peptides to be held February 14-16, 2008 in Brazil.

In an in-vivo model of cardiac remodeling, CGEN-856 and CGEN-857 were shown to afford significant cardio protection, as manifested by reduction of both fibrosis and hypertrophy of cardiomyocytes. Moreover, picomolar concentrations of the peptides had an anti-arrhythmogenic effect in isolated rat hearts following ischemia-reperfusion, as demonstrated by a reduction in the incidence and duration of reperfusion arrhythmias. In addition, sub-nanomolar concentrations of these peptides demonstrated significant dose-dependant relaxation of rat aorta. Through the reduction of cardiac remodeling and a unique vasodilatory effect, these peptides could offer a novel approach to heart failure and other cardiovascular conditions. Heart failure is a major cause of morbidity and mortality worldwide. It affects millions of people in the US and, despite continued efforts, mortality remains very high.

"MAS is an exciting target with ample evidence for its importance for cardiovascular physiology and pathophysiology, and these results strongly support continuing the development of CGEN-856 and CGEN-857 as therapeutic candidates," said Yossi Cohen, M.D., Vice President of Research and Development, Compugen Ltd. "The discovery of these two novel bioactive peptides follows the recently announced two FPRL1 peptide agonists which were discovered using the same GPCRs peptide ligands discovery platform," Dr. Cohen continued. "In light of the importance of GPCRs and the recognized difficulty of finding ligands through conventional screening techniques, we look forward to further use of this unique platform both for our own discovery efforts and in collaborative efforts with other companies," Dr. Cohen concluded.

### About MAS GPCR and the Renin-Angiotensin System

The renin-angiotensin system (RAS) is considered to be one of the most important regulatory systems for cardiovascular health. The RAS, which was originally considered to be a linear system, is now known to have two major counter-regulatory arms. The first and well studied arm is the ACE-angiotensin II axis, and existing drugs that inhibit RAS include ACE inhibitors and angiotensin II receptor blockers (ARBs). The more recently discovered counter regulatory arm is the ACE2-angiotensin 1-7-MAS axis, which includes the MAS G-protein coupled receptor which CGEN-856 and CGEN-857 have been shown to activate.

Recent studies indicate that activation of the MAS axis exerts cardio-protective effects, including prevention of detrimental cardiac remodeling following cardiac ischemia, improvement of cardiac

function, attenuation of renal abnormalities associated with hypertension and reduction of the duration of cardiac arrhythmias in response to reperfusion injury, thus pointing to this axis as a potential target for cardiovascular drug development. The recently completed in-vivo studies for CGEN-856 and CGEN-857 successfully demonstrated a number of these attributes.

#### About Compugen's GPCR Discovery Engine

GPCRs are the largest family of known drug targets, and at least 40% of prescription drugs currently available are thought to act on GPCRs. Compugen's GPCR discovery engine, one of eight discovery engines disclosed by Compugen to date, incorporates a proprietary model of the "peptidome" – an *in silico* comprehensive prediction of probable human peptides. Through the use of a series of proprietary algorithms the engine can be utilized to either predict GPCR ligands in general within this peptidome, or could be directed to identify ligands of specific GPCRs of interest.

Last year, following Compugen's validation run of the GPCR platform, 33 of the peptides predicted to be potential ligands for GPCRs were synthesized, and of these 33, to date eight have been shown to selectively modulate GPCRs in in-vitro validation studies. With the addition of CGEN-856 and CGEN-857 to the previously announced peptide agonists of the FPRL1 G-protein coupled receptor (two variants of CGEN-855: CGEN-855A and CGEN-855B), three of these eight peptides have now successfully completed initial in-vivo studies demonstrating therapeutic potential in important areas of unmet medical need. In addition to its own discovery efforts with the platform, Compugen has recently entered into a discovery and license option agreement with Merck & Co., Inc., targeted at predicting peptides likely to activate selected GPCRs and validating their agonistic activity.

#### 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. Our business model focuses on maximizing the number of products in the development pipelines of pharmaceutical and diagnostic companies worldwide under revenue sharing licensing agreements. Our means to accomplish these objectives relies on a growing inventory of powerful proprietary discovery engines that enable the predictive discovery – field after field – of numerous therapeutic and diagnostic product candidates. This capability is built on the Company's long-term pioneering efforts in creating world-leading computational biology platforms, systems and tools, and in obtaining deeper understandings of important biological phenomena at the molecular level. Included in our growing list of collaborations are Biosite, Diagnostic Products Corporation (a Siemens company), Medarex, Inc., Merck & Co., Inc., Ortho-Clinical Diagnostics (a Johnson & Johnson company), Roche, and Teva Pharmaceutical Industries. 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](http://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](mailto:naomir@cgen.com)  
Tel: +972-52-598-9894