

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 March 2009

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 March 17, 2009 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 Axselbard
Title: Chief Financial Officer
Date: March 17, 2009



For Release

Compugen Announces Positive Therapeutic Effects of Relaxin Receptor Peptide Ligand in Pulmonary Fibrosis Animal Model

Relaxin receptor is third GPCR for which Compugen novel peptide ligands have demonstrated proof of efficacy in animal models

Tel-Aviv, Israel, March 17, 2009 --- Compugen (NASDAQ: CGEN) announced today that CGEN-25009, a novel peptide that previously demonstrated the ability to activate the Relaxin receptor LGR7 (RXFP1) in cell based assays, has shown positive therapeutic effects in an animal model of pulmonary fibrosis. The Relaxin receptor is the third G-protein coupled receptor (GPCR) for which Compugen-discovered peptide ligands have shown therapeutic potential in disease models.

"Following two weeks of administration of the CGEN-25009 peptide to mice induced with lung fibrosis, there was a complete reduction in the fibrosis. This improvement was evident both by histology staining and by measuring the Pressure at the Airway Opening (PAO), where levels were comparable to those observed in healthy mice," said Dr. Anat Cohen-Dayag, vice president, research and development. "These results suggest that CGEN-25009 prevents pulmonary fibrosis in a disease animal model and therefore could have a potential therapeutic utility to treat pulmonary fibrosis and other fibrosis related conditions, such as chronic renal failure."

Professor Daniele Bani from the University of Florence, Italy, who performed the animal study and is a recognized world expert in this field with numerous publications on Relaxin's biology and pathway added, "To my knowledge, this would be the first report on the therapeutic effectiveness of an analogue of Relaxin. In view of the increasing interest in Relaxin as a possible drug and considering the problems inherent in producing enough of this hormone at a reasonably low cost, it could be foreseen that such information would be enthusiastically welcomed."

Pulmonary fibrosis is a devastating incurable condition, the cause for which is unknown in most cases. It is estimated to affect more than five million people worldwide with tens of thousands of new cases every year in the United States. More than 60% of patients diagnosed with the condition survive less than five years.

In 2007, Compugen announced the development of its GPCR Ligand Discovery Platform and its subsequent validation through the prediction and selection of several novel peptides that specifically activate various GPCRs. The GPCR family of membrane protein receptors is the largest family of known drug targets and therefore is of high interest in the pharmaceutical industry. At least 40% of prescription 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.

CGEN-25009, along with two other Relaxin related peptides, CGEN 25010 and 25011, were among the first peptide ligands predicted and selected utilizing Compugen's GPCR Ligand Discovery Platform. These peptides were first presented in May 2008 at the 5th International Conference on Relaxin and Related Peptides. Compugen's initial results suggested that CGEN-25009 has biological activities similar to those of Relaxin, which are now further supported by the in-vivo findings.

Dr. Yossi Cohen, Compugen's chief technology officer added "The growing body of positive results for the initial peptides predicted by our GPCR Ligand Discovery Platform is extremely encouraging. In February of last year we announced positive in-vivo results for two peptide ligands of the MAS GPCR indicating cardio-protective effects and therapeutic potential for the treatment of various cardiovascular diseases. These results were presented at the VII International Symposium on Vasoactive Peptides. In addition, a few months ago we announced the signing of a collaboration agreement with Merck KGaA, acting for its pharmaceutical division Merck Serono, covering a peptide ligand for the FPRL1 GPCR, which was shown in experimental studies to have potential to treat inflammatory diseases and other indications."

Dr. Cohen continued, "Subsequent runs of our GPCR ligand platform have yielded additional putative peptide candidates. Furthermore, the platform is the basis of our existing collaboration with Merck & Co. and the subject of current discussions with additional potential partners. Given this record of early and growing successful validation and industry interest, and the importance of GPCRs in medicine, we have high expectations for this discovery platform."

About LGR7, the Relaxin Receptor

Substantial world-wide research efforts have recently demonstrated that the natural peptide hormone Relaxin is multi-functional and applicable to a broad range of target tissues, including the reproductive system and other organs, in addition to its historical role as the "pregnancy hormone". Known to activate the LGR7 and LGR8 GPCR receptors, the currently recognized diverse and vital roles of Relaxin include anti-fibrotic activity, homeostatic roles in reproductive health, fertility and ageing, as well as the exhibition of therapeutic properties in various pathophysiological conditions such as infertility, pregnancy and labor complications, cardiovascular diseases, inflammatory disorders, wound healing and fibrotic diseases.

About Compugen's GPCR Peptide Ligand Discovery Platform

Compugen's GPCR Peptide Ligand Discovery Platform relies on a series of sequential computational biology models and machine learning capabilities for the prediction and selection of product candidates. The platform incorporates a proprietary model of the "peptidome", an *in silico* prediction of putative human peptides. Compugen's proprietary peptidome, which includes thousands of novel predicted human peptide sequences, is based on predicting cleavage sites in precursor proteins. The discovery platform utilizes proprietary machine-learning algorithms to analyze this peptidome and to identify peptides likely to activate GPCRs. Subsequently, selected molecules undergo several experimental validation stages.

About Compugen

Compugen is a leading drug and diagnostic product candidate discovery company. Unlike traditional high throughput trial and error experimental based discovery, Compugen's discovery efforts are based on *in-silico* (by computer) prediction and selection utilizing a growing number of field focused proprietary discovery platforms accurately modeling biological processes at the molecular level. The resulting product candidates are then validated through *in vitro* and *in vivo* experimental studies and out-licensed for further development and commercialization under various forms of revenue sharing agreements. Compugen's current collaborations include Biosite, Medarex, Inc., Merck & Co., Inc., Merck Serono, Ortho-Clinical Diagnostics (a Johnson & Johnson company), Roche, Siemens Healthcare Diagnostics, Inc., and Teva Pharmaceutical Industries. 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 about Compugen, please visit the Company's corporate Web site 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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