

**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 2010

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 16, 2010, 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: March 16, 2010



## **Compugen Announces Discovery Platform to Predict Cell Penetrating Peptides for Drug Delivery**

***Platform validation yields more than twenty such novel peptides***

Tel Aviv, Israel, March 16, 2010 --- Compugen Ltd. (NASDAQ: CGEN) announced today the development and validation of its Intracellular Drug Delivery (IDD) discovery platform for identification of cell penetrating peptides. Compugen also announced that as part of the validation process for the new platform, more than twenty novel peptides, predicted and selected *in silico*, demonstrated the predicted cell penetrating properties in initial experimental validation studies.

The delivery of biological molecules across selectively permeable cell membranes and into the cells represents a major challenge for the pharmaceutical industry. Furthermore, important classes of biological drugs now under development, such as therapeutic peptides and siRNA, need to enter the cell to be effective. Since most are unlikely to cross the surrounding protective membranes of cells on their own, they will require some type of delivery methodology. Cell penetrating peptides offer the opportunity to provide the required intracellular targeting of therapy, either by delivery of a therapeutic molecule as “cargo”, or by the peptide itself.

Compugen’s newly developed Intracellular Drug Delivery discovery platform enables the *in silico* identification of novel peptide sequences that are predicted to have the potential to penetrate the cell membrane. This new platform consists of various components from Compugen’s existing computational biology infrastructure and a series of proprietary machine learning algorithms specifically designed for this platform. In a validation run of the platform, a number of peptides having various physico-chemical properties potentially relevant for different specific uses were predicted and experimentally evaluated. Their ability to penetrate into cells was assessed by two independent well-accepted in-vitro assay systems. In these evaluations, more than twenty of these peptides were shown to possess cell penetrating activity both by visual image analysis through confocal microscopy and quantitative measures performed by flow cytometry analysis.

The last two decades have seen an increasing research interest in cell membrane penetration and the discovery of various cell penetrating peptides. In addition, the potential “cargo-carrying” capability of certain of these known cell penetrating peptides has been demonstrated in the lab by various experimental techniques; however, this capability was only recently introduced to the clinic. Looking to the future, it is forecasted that the availability of a much wider portfolio of cell penetrating peptides with improved properties will be required in order for this delivery methodology to meet the needs of the large number of biological molecules now being evaluated industry wide for therapeutic purposes. In this regard, Compugen intends to utilize its IDD platform to create a library of cell penetrating peptides with properties specific to different cargos and/or tissues.

In addition to the substantial opportunity represented by “therapeutic cargo-carrying”, Compugen intends to integrate its Intracellular Drug Delivery discovery platform with its other *in silico* therapeutic peptide discovery capabilities, such as the DAC Blockers platform, in order to create dual function peptides. These dual function peptides will be designed to both penetrate the cell membrane, and provide the required therapeutic intervention.

Zurit Levine, PhD, Compugen's vice president of research and development stated, "The efficient intracellular delivery of therapeutic molecules is already presenting a hurdle for the biopharma industry, and will only become more of a problem with the advancement of intracellular target based therapeutic technologies such as RNAi, peptides and other classes of biological molecules. We expect our Intracellular Drug Delivery discovery platform to play a key role in both meeting this challenge and providing the potential for dual function peptides thereby contributing to a new and fruitful era of intracellular approaches to therapy."

Anat Cohen-Dayag, PhD, Compugen's president and CEO added, "The use of peptides for human therapy is one of the fastest growing segments of pharmaceuticals. Therefore the predictive discovery of peptides for important therapeutic needs has been a focus of our research efforts for the past few years and we are extremely pleased by our continued broadening and deepening capabilities in peptide discovery. In addition to the cell penetrating peptide platform being announced today, we previously announced validated platforms for the predictive discovery of peptide ligands for GPCRs - which are by far the largest family of receptors for drugs, peptides that block proteins from disease associated conformations, viral peptides for human diseases and therapeutic peptides in various fields of therapy. We have no doubt that our widely applicable peptide discovery capabilities are unique in our industry."

#### **About Intracellular Delivery**

Only compounds within a narrow range of molecular size, polarity and net charge are able to diffuse effectively through cell membranes. The cellular membrane acts as a protective barrier from dangerous compounds and is essential for cellular homeostasis. However, it also prevents large and charged therapeutic molecules from achieving intracellular localization and thereby addressing a vast number of targets believed to have therapeutic potential. For example, siRNA therapeutic efficacy requires successful intracellular localization of these oligos for RNA inhibition.

#### **About Compugen's Discovery Platforms**

During the past few years, and including the IDD Platform disclosed today, Compugen has designed, developed, validated and disclosed eleven product candidate discovery platforms directed at various important areas of drug and diagnostic discovery. These have included platforms for the discovery of therapeutic proteins and peptides, targets for monoclonal antibodies, peptides to block disease associated conformations of proteins, and both molecular and genetic biomarkers. The development of this diverse range of discovery platforms in such a short period of time has been possible only due to Compugen's commitment since 1997 to gain predictive understandings of various important biological phenomena at the molecular level. Utilizing this continuously growing base of scientific understanding, Compugen has created, and continues to create, predictive models, algorithms and other computational biology methodologies that provide a unique and rich infrastructure for the design of systematic platforms for the predictive discovery of novel drug, target and biomarker product candidates.

#### **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. Compugen's growing number of collaborations with major pharmaceutical and diagnostic companies cover both (i) the licensing of product candidates discovered by Compugen during the validation of its discovery platforms and in its internal research, and (ii) "discovery on demand" agreements where existing or new Compugen discovery platforms are utilized to predict and select product candidates as required by a partner. In 2002, Compugen established an affiliate, Evogene Ltd. ([www.evogene.com](http://www.evogene.com)) (TASE: EVGN), 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](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.

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