

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 24, 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 24, 2009

Teva to Utilize Compugen-Discovered Biomarkers for Pre-Clinical Detection of Drug-induced Kidney Toxicity

Compugen to commercialize biomarkers during second half of 2009

Tel-Aviv, Israel, March 24, 2009 --- Compugen Ltd. (NASDAQ: CGEN) announced today that Teva Pharmaceutical Industries has exercised its option to utilize in its research activities a novel combination of biomarkers, discovered by Compugen, for early detection of drug-induced nephrotoxicity. This biomarker combination was discovered under the umbrella of collaboration between Compugen and Teva. Compugen also announced today its plans to commercially introduce the markers through licensing arrangements during the second half of this year.

Under the terms of the collaboration with Teva, initiated in 2007, Compugen conducted a discovery process utilizing its proprietary computational tools, discovery engines and nucleic acid testing platforms as well as data derived from biological samples collected by Teva in a preclinical study designed specifically for this project. The business terms for the collaboration provided Teva with the royalty-free right to use any discovered markers for internal research and development activities; Compugen retained the commercialization rights for licensing such markers to other companies, as well as rights for internal use.

Validation results demonstrate that the biomarker signature may enable a much earlier prediction of drug-induced kidney toxicity during pre-clinical trials in rats in comparison to traditional diagnostic methods such as histopathology or clinical chemistry. In addition, the biomarker combination successfully predicted the relative levels of toxicity of the compounds that were tested.

About Drug-induced Nephrotoxicity

Current tools for diagnosis of kidney function involve blood tests, such as blood urea nitrogen and serum creatinine levels, which show significant results only after substantial kidney injury has occurred. The pharmaceutical industry spends considerable amounts of money, time and effort trying to detect toxic drug effects as early as possible in order to avoid the incorporation of such drug candidates into more expensive drug development stages. Since the kidney is one of the primary sites of drugs toxicity, early detection of nephrotoxicity in the preclinical stage of drug development is an important unmet need.

About Compugen's Nucleic Acid Testing (NAT) Discovery Platform

This Platform relies on Compugen's LEADS and MED infrastructure platforms and additional public and proprietary data sources. Various algorithms and statistical and machine learning tools are used to discover novel RNA transcripts that can serve as diagnostic biomarkers. The platform has been designed to predict and discover single and multiple combination biomarkers; the platform can also be used to discover such biomarkers for any organ toxicity and/or various disease biomarkers.

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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