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 November 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 November 05, 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 Axselbrad
Title: Chief Financial Officer
Date: November 05, 2009

Compugen Announces Preeclampsia Biomarker Collaboration

Collaboration based on Compugen discovered VEGF receptor splice variant

Tel Aviv, Israel, November 5, 2009 --- Compugen Ltd. (NASDAQ: CGEN) announced today that it has signed a research and license agreement with a leading diagnostic company covering CGEN-226, a novel biomarker candidate for early detection of preeclampsia. Preeclampsia is the most common of the dangerous pregnancy complications, occurring in 5-8% of all pregnancies, with potentially very serious effects for both the mother and the fetus. For competitive reasons, the diagnostic company requested that their identity not be disclosed.

At present, attempts at early diagnosis of preeclampsia rely largely on symptoms which are non-specific to the disease. If the condition is not recognized, and the pregnancy is left to continue to full term, the disease will progress to eclampsia, often resulting in seizure, coma and mortality. Therefore, diagnosing preeclampsia in the early stages of a pregnancy is a field of high interest to the medical community and diagnostic industry.

CGEN-226 is a soluble splice variant of the vascular endothelial growth factor (VEGF) receptor 1 gene. This previously unknown splice variant was predicted and selected through the use of Compugen's *in silico* modeling of the human transcriptome and proteome for the discovery of novel molecules for diagnostic and therapeutic uses. Following its *in silico* prediction and selection, CGEN-226 was validated experimentally, and patent applications covering this novel splice variant were made for various diagnostic and therapeutic applications.

Prior to the Compugen discovery and validation of CGEN-226, a different soluble form of the VEGF receptor 1 was shown to be produced by the placenta and to be elevated in the blood stream of pregnant women who develop preeclampsia. However, the Compugen discovered CGEN-226 has subsequently been shown to be the primary soluble VEGF receptor 1 in the circulation of women with preeclampsia. This finding further supports Compugen's prediction that this variant is a candidate biomarker suitable to serve as a basis for a diagnostic test discriminating normal pregnancy and that with preeclampsia, even prior to clinical manifestation.

About Preeclampsia & Eclampsia

Preeclampsia, also referred to as toxemia, is the most common of the dangerous pregnancy complications, occurring in 5-8% of pregnancies and affecting both the mother and the fetus. Preeclampsia, when present, usually appears during the second half of pregnancy and is diagnosed when a pregnant woman develops high blood pressure and the presence of significant amounts of protein in the mother's urine (Proteinuria). Blood pressure elevation involves generalized damage to the maternal endothelium, kidney and liver. The exact pathogenesis of preeclampsia is still not certain. Studies have shown that hypoxia, resulting from inadequate blood supply to the placenta, leads to a release of systemic vasoactive compounds, among them soluble VEGF receptor 1, that cause an exaggerated inflammatory response, vasoconstriction, endothelial damage and restriction of placental growth.

Eclampsia is the final and most severe phase of preeclampsia and occurs when preeclampsia is left untreated. In addition to the previously mentioned symptoms, women with eclampsia often have seizures. Eclampsia can cause coma and even death of the mother and fetus or baby, and can occur before, during or after childbirth.

Preeclampsia is currently detected only after its onset, usually by routine measurement of blood pressure in the third trimester. If preeclampsia is recognized, in almost all cases the mother will undergo either Caesarean section or induction of labor. Therefore, the ability to accurately

predict patients at risk for this dangerous condition would be of great value, enabling close surveillance and dramatically reducing costs of antenatal care and neonatal intensive care.

About Splice Variants
The phenomena of alternative splicing, whereby a single gene can result in multiple transcripts (i.e. “splice variants”) and thereafter, proteins, is now well known and should be taken into consideration in essentially all aspects of molecular biology. In the late 1990’s Compugen pioneered this understanding through the use of its first infrastructure platform, LEADS. By incorporating the predictive modeling of alternative splicing and other proprietary genomic understandings, LEADs facilitated the *in silico* prediction of the human transcriptome, and subsequently the human proteome. This early understanding of alternative splicing and additional biological processes, and the resulting predictive transcriptome and proteome, have served as a basis for many of Compugen’s subsequent research breakthroughs and discovery platforms. The importance and extent of alternative splicing, as earlier predicted by Compugen, was further evidenced upon the completion of the Human Genome Project.

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 collaborations include Bayer Schering Pharma, 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, 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: acceptance of its business model by major pharmaceutical companies; possible inability to become profitable; inability to raise capital to sustain its operations; inability to enter into favorable arrangements with collaborators; inability of collaborators to successfully develop drugs based on our candidates; 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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