For Immediate Release

# Compugen Announces Experimental Confirmation of Additional Methodology for Discovery of Cancer-Related Immune Checkpoints

***Additional predictive methodology designed to discover novel targets for immunomodulation distinct from B7/CD28-like proteins***

***Successful initial experimental results reported for drug target candidate identified through new methodology***

Tel Aviv, Israel, December 2, 2014 --- Compugen Ltd. (NASDAQ: CGEN) announced today successful initial experimental results for a novel immune checkpoint candidate predicted *in silico* utilizing a methodology designed to discover immunomodulators distinct from B7/CD28-like proteins. In July of this year, the Company disclosed the prediction of four such potential targets following the extension of its predictive discovery capabilities for immunotherapy beyond the successful initial focus on B7/CD28-like proteins. Testing of the additional three candidates is ongoing.

The target candidate was predicted using a computational approach that identifies proteins linked to tumor-associated macrophage (TAM) biology. TAMs are found within the tumor microenvironment and have an important role in promoting progression and invasion of tumor cells, and in suppression of anticancer immunity. Various pharmaceutical and biotechnology companies have begun to develop therapies targeting TAMs, and clinical trials are at early stages.

Dr. Anat Cohen-Dayag, President and CEO of Compugen, stated, “There is a strong and growing interest in the biopharma industry and the medical world to broaden the application of cancer immunotherapy to additional cancer types and patient populations through additional immune modulation approaches. Therefore, we are pleased by this experimental validation of our ability to discover additional types of immunomodulatory proteins to serve as target candidates for cancer immunotherapy, utilizing a completely different predictive methodology from the one we have successfully employed for the discovery to date of eleven B7/CD28-like proteins.”

The results, now being disclosed, demonstrate this novel protein’s functional activity in an experimental system that models the interaction of the immune system with cancer cells. Specifically, these studies have shown that overexpression of this protein in human melanoma cells inhibits the activity of tumor-specific cytotoxic T cells (CTLs)

which are known to play a major role in anti-tumor immune responses. In addition, this candidate showed expression on cancer cells and tumor immune infiltrating cells, primarily TAMs, of various cancer types, including lung, breast, liver, brain and gastric. The candidate also showed expression in other malignancies, such as melanoma and lymphoma. This expression data combined with its demonstrated functional activity are highly supportive of the candidate's potential to serve as a novel target for cancer immunotherapy.

**About Immunomodulatory Proteins and Immune Checkpoints**
Immunomodulatory proteins are proteins capable of modifying or regulating one or more immune functions. Immune checkpoints, including inhibitory receptors and ligands, are immunomodulatory proteins, which are crucial for the maintenance of self-tolerance (the prevention of autoimmunity) and for the protection of tissues from damage during an immune response. These immune checkpoints are "hijacked" by tumors to block the ability of the immune system to destroy the tumor. Therapeutic blockade of immune checkpoints can boost anti-tumor immunity, enabling the patient's immune system to recognize and attack the tumor cells, and mount durable anti-tumor responses and tumor destruction. Checkpoint-blocking antibodies have lately demonstrated impressive clinical benefits and long-term survival, even for end-stage patients, raising hopes that this novel approach will lead to effective therapeutic strategies and valuable additions in the fight against cancer.

**About Compugen**
Compugen is a leading drug discovery company focused on therapeutic proteins and monoclonal antibodies to address important unmet needs in the fields of immunology and oncology. The Company utilizes a broad and continuously growing integrated infrastructure of proprietary scientific understandings and predictive platforms, algorithms, machine learning systems and other computational biology capabilities for the *in silico* (by computer) prediction and selection of product candidates, which are then advanced in its Pipeline Program. The Company's business model includes collaborations covering the further development and commercialization of product candidates at various stages from its Pipeline Program and various forms of research and discovery agreements, in both cases providing Compugen with potential milestone payments and royalties on product sales or other forms of revenue sharing. Compugen's wholly-owned U.S. subsidiary located in South San Francisco is developing monoclonal antibody therapeutic candidates against its novel drug targets. For additional information, please visit Compugen's corporate website at www.cgen.com.

**Forward-Looking Statement**
This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by the use of terminology such as "will," "may," "expects," "anticipates," "believes," and "intends," and describe opinions about future events and include statements related to the potential of a novel immune checkpoint candidate, predicted *in silico* utilizing a methodology designed to discover immunomodulators distinct from B7/CD28-like proteins, to serve as a target for cancer immunotherapy. 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 inability to reach mutually agreeable terms and conditions with respect to potential new collaborations; 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 discussed in the "Risk Factors" section of Compugen's most recent Annual Report on Form 20-F as filed with the Securities and Exchange Commission as well as other documents that may be subsequently filed by Compugen from time to time with the Securities and Exchange Commission. In addition, any forward-looking statements represent Compugen's views only as of the date of this release and should not be relied upon as representing its views as of any subsequent date. Compugen does not assume any obligation to update any forward-looking statements unless required by law.

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