



For Immediate Release

Compugen Discloses New Results for Novel Target Candidate for Cancer Immunotherapy

*Recent data further support CGEN-15049 immune checkpoint role
in inhibiting the immune response to cancer cells*

CGEN-15049 therapeutic antibody development is underway

Tel Aviv, Israel, October 1, 2014 --- Compugen Ltd. ([NASDAQ: CGEN](#)) today disclosed results from recent studies further confirming CGEN-15049 as a promising target candidate for cancer immunotherapy. These recent studies evaluated the function of this Compugen-discovered immune checkpoint candidate on immune cells derived from the tumor environment of melanoma patients. Based on these and earlier experimental results, CGEN-15049, which is expressed on various cancers including lung, ovarian, breast, colorectal, gastric, prostate and liver, is further advancing in the Company's Pipeline Program, with ongoing therapeutic antibody development activities against this novel target.

In the recent experimental studies now being disclosed, CGEN-15049 continued to demonstrate the potential to inhibit the immune system's ability to attack cancer cells. More specifically, these studies have shown that overexpression of CGEN-15049 in human melanoma cells inhibits the activity of tumor antigen-specific cytotoxic T cells (CTLs) derived from melanoma patients' tumors. These effector immune cells, also referred to as tumor infiltrating lymphocytes (TILs), infiltrate tumors and are known to play a major role in anti-tumor immune responses. The results suggest that CGEN-15049 can inhibit the activity of the immune system in the tumor microenvironment through its impact on TILs, which would otherwise fight the tumor.

In addition, new initial experimental data from a mouse tumor model further support expression of CGEN-15049 on suppressive immune cells within the tumor microenvironment. Together with the previously reported expression on a wide variety of cancers, and combined with the immunomodulatory activity of CGEN-15049 on immune cells involved in tumor progression, these data support a potential role for this drug target in suppressing anti-tumor immune responses. Therefore, blockade of CGEN-15049 activity by monoclonal antibody therapy is anticipated to result in the stimulation of an anti-tumor immune response, leading to tumor elimination.

Dr. Anat Cohen-Dayag, Compugen's President and CEO, stated, "As we move forward with the discovery of therapeutic antibodies targeting our novel immune checkpoint candidates, we continue to be very pleased by the encouraging results we are achieving as we further evaluate the eleven novel B7/CD28-like immune

checkpoints that resulted from our first focused use of Compugen's predictive discovery platform. These results not only demonstrate the high accuracy of our unique discovery capability, but also demonstrate the diversity of our Pipeline Program candidates and their potential to inhibit the immune system's response against cancer through complementary mechanisms. These attributes, such as those now being reported for CGEN-15049, could offer major benefits given the breadth of the possible therapeutic applications for our drug targets. Oncology drugs based on these novel immune checkpoints could potentially have significant medical and commercial value.

About CGEN-15049

CGEN-15049 is one of eleven novel B7/CD28-like immune checkpoints predicted *in silico* by Compugen. It was previously disclosed that this target candidate has an effect on a variety of immune cells, supporting its role as a modulator of the immune system. More specifically, CGEN-15049 has been shown to affect immune cells such as Natural Killer (NK) cells, which are important for innate anti-tumor immune responses, and various T cell types that constitute a crucial component of the adaptive immune response. The adaptive immune response includes inhibition of cytotoxic T lymphocytes, which are responsible for killing tumor cells, and promotion of inducible regulatory T cells, which play a critical role in the immunosuppressive tumor microenvironment. These data support the ability of CGEN-15049 to affect key components of the immune system involved in tumor progression and tumor elimination, thus potentially obstructing the ability of the immune system to fight the tumor. In addition, CGEN-15049 was shown to be expressed on a wide variety of cancers with high clinical unmet need, such as lung, ovarian, breast, colorectal, gastric, prostate and liver cancers.

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 inhibition by CGEN-15049 of the immune system's ability to

attack cancer cells; blockade of CGEN-15049's activity by monoclonal antibody therapy, resulting in potential stimulation of an anti-tumor immune response and potential elimination of tumors; and the potential of Compugen's Pipeline Program candidates to be of significant medical and commercial value. 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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