

For Immediate Release

Compugen Discloses Initial Experimental Results for Predicted Antibody Drug Conjugate Targets

Pipeline Program for oncology to be further expanded and diversified with addition of ADC therapeutic programs to ongoing immuno-oncology programs

Tel Aviv, Israel, January 5, 2015 --- Compugen Ltd. (NASDAQ: CGEN) announced today positive initial experimental results for the first two of five *in silico* predicted targets for antibody drug conjugate (ADC) cancer therapy disclosed in late 2013. The two candidates demonstrate low expression levels in normal critical tissues, such as heart and liver, and higher expression in multiple cancer types, such as colorectal and prostate cancers, for which there is high unmet medical need. These results suggest that the two target candidates may serve for the development of ADC therapy in oncology. Initial validation of the remaining three candidates, and further testing of these two, is ongoing. It is expected that a therapeutic antibody discovery program against a selected ADC target will commence later this year.

Dr. Anat Cohen-Dayag, Compugen's President and CEO, stated, "As previously disclosed, most of our R&D and commercialization efforts are now being directed towards immuno-oncology related activities supporting our immune checkpoint based candidates for immunotherapy. As these very promising candidates based on our first discovery program move ahead, we look forward to further broadening the scope and diversity of our Pipeline Program with therapeutic antibodies against ADC targets resulting from our second discovery program. We therefore are very pleased to report these initial positive experimental results in this additional area of high industry interest, supporting the therapeutic potential of these first two target candidates and further demonstrating the unique capabilities of our broadly applicable predictive discovery infrastructure."

About Antibody Drug Conjugate (ADC) cancer therapy

ADC cancer therapy destroys cancer cells by delivering high-potency cytotoxic agents (the "payload") directly to the cancer cells. The principle underlying ADC therapy is to impact only the cancer cells by linking the cytotoxic agent payload to an antibody or antibody fragment that specifically binds to a protein that is present on cancer cells and expressed at lower levels in healthy cells. When administered to the patient, the antibody with the payload specifically targets this protein, and is internalized into the cells, where the toxic payload is released and activated. Thus, unlike traditional chemotherapies, ADCs are designed to specifically destroy only cells displaying the cancer target protein. ADCs against a number of targets, both in solid and hematologic tumors, are in clinical development by biopharma companies, and two ADC products have obtained FDA regulatory approval in the past two years.

About Compugen

Compugen is a leading drug discovery company focused on monoclonal antibodies and therapeutic proteins to address important unmet needs in the fields of oncology and immunology. 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 novel drug target candidates, which are then advanced in its Pipeline Program. The discovery and development of monoclonal antibody therapeutic candidates against selected Compugen-discovered novel target candidates is performed by Compugen's wholly-owned U.S. subsidiary located in South San Francisco. 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. For additional information, please visit Compugen's corporate website at www.cgen.com.

Forward-Looking Statement Disclaimer

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, including statements relating to the ADC target candidates predicted by Compugen serving for the development of ADC therapy in oncology; the broadening of the scope and diversity of the Company's Pipeline Program with therapeutic antibodies against ADC targets and in particular the commencement of a therapeutic antibody discovery program against a selected ADC target during 2015. Forward-looking statements can be identified by the use of terminology such as "may," "expectations," "approximately," "further" and "potential" 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 and other factors are discussed in the "Risk Factors" section of Compugen's Annual Report on Form 20-F for the year ended December 31, 2013 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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