



FOR IMMEDIATE RELEASE

Compugen Announces Publication of the Discovery of ILDR2 as a Novel Immune Checkpoint and its Use for the Treatment of Autoimmune Diseases in Two Back-to-Back Papers in *The Journal of Immunology*

ILDR2 forms the basis of ILDR2-Fc fusion protein, also known as CGEN-15001, Compugen's product candidate for the treatment of autoimmune diseases

Antibody against ILDR2 for cancer immunotherapy in late preclinical development by Bayer

HOLON, ISRAEL – February 6, 2018 – [Compugen Ltd.](http://www.compugen.com) (NASDAQ: [CGEN](http://www.compugen.com)), a leader in predictive discovery and development of first-in-class therapeutics for cancer immunotherapy, today announced the online publication of the discovery and validation of the ILDR2 protein as a novel immune checkpoint and its use as an Fc fusion protein for the treatment of autoimmune diseases in two peer-reviewed papers in *The Journal of Immunology*. Antibody-based therapeutics targeting ILDR2, designated by Compugen as CGEN-15001T, for immuno-oncology were licensed to Bayer, while Compugen retains the full rights to the fusion protein, designated as CGEN-15001, consisting of the extracellular domain of ILDR2 and an Fc domain, for potential use in autoimmune diseases. ILDR2-Fc has a unique mechanism of action underlying its ability to ameliorate autoimmunity, which combines immunomodulation with regulation of immune homeostasis and with re-establishment of immune tolerance.

“The publication of the discovery and functional validation of ILDR2 and its potential therapeutic applications in a prestigious peer-reviewed journal is a scientific recognition of the significance of our findings. Compugen is the first to publish data on ILDR2 as a new immune checkpoint with a potential therapeutic role in autoimmune diseases and cancer immunotherapy, each presenting first-in-class therapeutic opportunities,” stated Anat Cohen-Dayag, PhD, President and CEO of Compugen. “This is the third novel immune checkpoint we disclosed, following PVRIG and TIGIT. Similar to our discovery of the PVRIG/PVRL2 pathway in immuno-oncology and its potential clinical significance, here too, we identified a new pathway with robust and diversified data supporting its mechanism-of-action and broad therapeutic potential, both for the treatment of autoimmune diseases and for cancer immunotherapy.”

[The publication¹](#) led by Compugen's scientists, describes the computational discovery approach leading to the discovery of ILDR2 as a novel immune checkpoint. The experimental validation of the role of this protein as a negative regulator of T cell activity was established both internally at Compugen as well as in collaboration with scientists from three leading academic institutions. The publication reports the beneficial effects of CGEN-15001 in an animal model of rheumatoid

arthritis (RA), as well as in a translational assay utilizing blood cells from RA patients, that mimics the deleterious interactions of immune cells in the RA synovium. The latter study was led by Prof. Iain B. McInnes, Muirhead Chair of Medicine and Director of Institute of Infection, Immunity and Inflammation at the University of Glasgow.

Prof. McInnes, co-author of the Compugen publication, said, “These findings assign a new role to the ILDR2 protein, whose immune-related function was not previously known, and uncover a novel pathway involved in immune regulation. The expression pattern of this protein, as well as its mechanism of action elucidated in these two publications, involving the induction of immune tolerance and restoration of immune homeostasis, offer a potential novel treatment option for autoimmune and chronic inflammatory conditions. Both traits are highly desired in a broad range of autoimmune diseases and are not well addressed with currently available therapies, which are often globally immunosuppressive.”

Preclinical research led by Compugen’s scientists together with Profs. Stephen Miller, Ph.D., and Joseph R. Podojil, Ph.D., both from the Department of Microbiology-Immunology and Interdepartmental Immunobiology Center, Feinberg School of Medicine, [Northwestern University](#)²; and published in an additional paper, demonstrates the potential of ILDR2-Fc fusion protein to address autoimmune and inflammatory conditions as well as the mechanism of action underlying this activity. The data show the potent and long-lasting immunomodulatory activity of ILDR2-Fc fusion protein in animal models of multiple sclerosis (R-EAE) and type 1 diabetes, and its ability to promote engraftment in an animal model of bone marrow transplantation. This work reveals the mechanism of action of ILDR2-Fc in ameliorating autoimmunity through regulation of immune homeostasis and re-establishment of immune tolerance to the disease-causing antigen, by the induction of regulatory T cells (Tregs).

Prof. Miller commented, “Our findings point to a compelling mode of action for this Fc fusion protein in autoimmune diseases. In animals, this protein induced a long-term response following a short treatment duration through the promotion of regulatory T cells activating an immune tolerance induction mechanism. We also showed that this immune tolerance induction, addressing the autoimmune disease, is specific to the antigen driving the autoimmune disease and did not trigger a global non-specific inhibition of immune responses, thus potentially maintaining the immune response against infections and neo-malignancies.”

1. ILDR2 is a Novel B7-like Protein that Negatively Regulates T Cell Responses (Hecht et al, JI, in press)
2. ILDR2-Fc is a Novel Regulator of Immune Homeostasis and Inducer of Antigen- Specific Immune Tolerance (Podojil et al, JI, in press)

About Compugen

Compugen is a therapeutic discovery and development company utilizing its broadly applicable predictive discovery infrastructure to identify novel drug targets and develop first-in-class therapeutics in the field of cancer immunotherapy. The Company’s therapeutic pipeline consists

of immuno-oncology programs against novel drug targets it has discovered, including T cell immune checkpoints and myeloid target programs. Compugen's business model is to selectively enter into collaborations for its novel targets and related drug product candidates at various stages of research and development. The Company is headquartered in Israel, with R&D facilities in both Israel and South San Francisco, CA. Compugen's shares are listed on NASDAQ and the Tel Aviv Stock Exchange under the ticker symbol CGEN. For additional information, please visit Compugen's corporate website at <http://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," "potential," "plan," "goal," "estimate," "likely," "should," "confident," and "intends," and describe opinions about possible 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. Among these risks: Compugen's business model is substantially dependent on entering into collaboration agreements with third parties and Compugen may not be successful in generating adequate revenues or commercializing aspects of its business model. Moreover, the development and commercialization of therapeutic candidates involve many inherent risks, including failure to progress to clinical trials or, if they progress to or enter clinical trials, failure to receive regulatory approval. These and other factors, including the ability to finance the Company, are more fully 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 (SEC) as well as other documents that may be subsequently filed by Compugen from time to time with the SEC. 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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