FOR IMMEDIATE RELEASE

Compugen Announces First Patient Dosed in COM902 Phase 1 Trial for Patients with Advanced Malignancies

Initial data expected in 2021

COM902 and COM701 will allow the Company to clinically evaluate the dual blockade of PVRIG and TIGIT inhibitory pathways in the DNAM axis

HOLON, ISRAEL, April 6, 2020 – Compugen Ltd. (Nasdaq: CGEN), a clinical-stage cancer immunotherapy company and a leader in predictive target discovery, today announced that the first patient has been dosed in its Phase 1 clinical trial of COM902, an immuno-oncology therapeutic antibody targeting TIGIT, in patients with advanced malignancies.

This Phase 1 open-label clinical trial is designed to assess the safety, tolerability, pharmacokinetics, pharmacodynamics, and preliminary antitumor activity of escalating doses of COM902 monotherapy in patients with advanced malignancies who have exhausted all available standard therapies. The study will be conducted in multiple leading oncology clinical centers in the United States.

Manish Sharma, M.D., Associate Director of Clinical Research at START Midwest (Grand Rapids, MI) and a Principal Investigator in the Phase 1 COM902 study, said, "Being part of Compugen's ongoing COM701 Phase 1 study, we are excited to expand our relationship with the Company and enroll patients in this clinical trial evaluating the inhibition of TIGIT, a part of the DNAM axis, with COM902. There remains a high unmet medical need to evaluate novel investigational agents in patients unresponsive to PD-1 or PDL-1 inhibitors. The two studies enable us to evaluate COM701 and COM902 in these patient populations."

Anat Cohen-Dayag, Ph.D., President and CEO of Compugen, added "Advancing COM902 through Phase 1 studies is an important step towards testing the clinical effect of the dual blockade of PVRIG and TIGIT, two parallel inhibitory pathways in the DNAM axis. Our preclinical work suggests that the simultaneous blockade of TIGIT and PVRIG may be essential for inducing robust antitumor immune responses in patient populations where these two pathways are operative. This is further reinforced by our initial clinical data demonstrating preliminary antitumor activity by COM701 targeting PVRIG and pharma's increasing focus on the blockade of TIGIT, which we and others discovered in 2009. As the only company, to our knowledge, currently with clinical programs targeting both TIGIT and PVRIG, we are uniquely positioned to synergistically target both immune checkpoints."

Dr. Cohen-Dayag continued, “Our various clinical studies targeting PVRIG and TIGIT, including the Phase 1/2 trial designed to evaluate the triple blockade of PVRIG, TIGIT and PD-1 expected to initiate in the second half of 2020, build our science-driven clinical pipeline designed to address the significant unmet need of patients who are non-responsive and refractory to currently approved cancer immunotherapies. We look forward to the multiple anticipated data readouts from our clinical studies, including updated data from our ongoing COM701 monotherapy and combination therapy dose escalation studies later this year, and from our COM701 Phase 1 monotherapy expansion cohorts and COM902 Phase 1 studies in 2021.”

Additional information on the COM902 Phase 1 study will be available shortly at www.clinicaltrials.gov.

About COM902

COM902 is a high affinity, fully human antibody that blocks the interaction of TIGIT with PVR, its ligand, and consequently enhances T cell function. It is currently being evaluated in a Phase 1 clinical trial in patients with advanced malignancies who have exhausted all available standard therapies. Compugen has demonstrated in preclinical studies that simultaneous inhibition of TIGIT and PVRIG, the two coinhibitory arms of the DNAM axis, can increase antitumor immune responses, which may be further enhanced with the addition of PD-1 blockade. These data suggest that treatment with COM701 and COM902, targeting PVRIG and TIGIT, respectively, alone or in combination with a PD-1 inhibitor, has the potential to expand immuno-oncology treatment to patient populations who are non-responsive or refractory to existing immunotherapies.

The discovery of TIGIT, using the Company’s computational discovery platform, was published by Compugen in October 2009 in the Proceedings of the National Academy of Sciences (PNAS).

About Compugen

Compugen is a clinical-stage therapeutic discovery and development company utilizing its broadly applicable, predictive computational discovery platforms to identify novel drug targets and develop therapeutics in the field of cancer immunotherapy. The Company’s lead product candidate, COM701, a first-in-class anti-PVRIG antibody, for the treatment of solid tumors, is undergoing a Phase 1 clinical study. In addition, COM902, Compugen’s antibody targeting TIGIT, is in a Phase 1 clinical study. The Company’s therapeutic pipeline also includes early stage immuno-oncology programs focused largely on myeloid targets. 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 offices in South San Francisco, CA. Compugen’s shares are listed on the Nasdaq and the Tel Aviv Stock Exchange under the ticker symbol CGEN. 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 Securities Act of 1933 and the Securities Exchange Act of 1934, as amended, and the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on the current beliefs, expectations and assumptions of Compugen. 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 similar expressions that are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements include, but are not limited to, statements regarding fact that the COM902 phase 1 study will be conducted in multiple leading oncology clinical centers in the United States, our expectation that the Phase 1/2 trial designed to evaluate the triple blockade of PVRIG, TIGIT and PD-1 pathways will be initiated in the second half of 2020 and our statement that the multiple anticipated data readouts from our clinical studies, including more updated data from our ongoing COM701 monotherapy and combination with nivolumab dose escalation studies will are anticipated later this year and from our COM701 Phase 1 monotherapy expansion cohorts and COM902 Phase 1 study in 2021. 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 operations and the operations of the multiple leading oncology clinical centers in the United States in which the COM902 phase 1 study will be conducted could be affected by the outbreak and spread of the Coronavirus; clinical development involves a lengthy and expensive process, with an uncertain outcome and Compugen may encounter substantial delays or even an inability to begin clinical trials for any specific product, or may not be able to conduct or complete its trials on the timelines it expects; Compugen relies, and expects to continue to rely, on third parties to conduct its clinical trials and if these third parties do not successfully carry out their contractual duties, comply with regulatory requirements or meet expected deadlines (including as a result of the effect of the Coronavirus), Compugen may experience significant delays in the conduct of its clinical trials and obtain data readouts; Compugen's ability to present data derived from collaborations with its partners is dependent in some cases on the agreement of our partners to present such data, and in any event is dependent on its acceptance to present data in relevant conferences; Compugen's approach to the discovery of therapeutic products is based on its proprietary computational target discovery infrastructure, which is unproven clinically; Compugen does not know whether it will be able to discover and develop additional potential product candidates or products of commercial value; 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. These risks and other risks are more fully described in the "Risk Factors" section of Compugen's most recent Annual Report on Form 20-F 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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