FOR IMMEDIATE RELEASE

Compugen Reports Second Quarter 2020 Results

Initiation of triple combination study accelerating the evaluation of the DNAM axis hypothesis on-track for 2H 2020

Enrollment in COM701 Phase 1 monotherapy biomarker-driven expansion cohort on-track

HOLON, ISRAEL, July 30, 2020 — Compugen Ltd. (Nasdaq: CGEN), a clinical-stage cancer immunotherapy company and a leader in predictive target discovery, today reported financial results for the second quarter ended June 30, 2020.

"We have reached an exciting phase of development at Compugen, rapidly advancing the clinical evaluation of our DNAM axis hypothesis, suggesting that PVRIG and TIGIT are two parallel and complementary inhibitory pathways in the axis and that blocking both PVRIG and TIGIT may be required in certain tumor types in order to generate or enhance an anti-tumor immune response. Furthermore, these two pathways intersect with the PD-1 pathway and as such, the simultaneous blockade of the three pathways may synergistically enhance anti-tumor immune responses in patient populations where the three are dominant," said Anat Cohen-Dayag, Ph.D., President and CEO of Compugen. "When we first introduced this hypothesis a few years ago, of the three targets, only PD-1 was clinically validated. Remarkably, in the past few quarters, we have shown preliminary signs of clinical activity of PVRIG blockade and more recently clinical validation of TIGIT blockade was presented by others. We believe that this data further confirms our preclinical work and increases our confidence in our hypothesis and the clinical path we are pursuing."

Dr. Cohen-Dayag added, "We are pleased with the progress we are making in advancing the evaluation of our clinical candidates in monotherapy and combination regimens. We are currently enrolling patients in our COM701 Phase 1 monotherapy expansion study, which leverages a biomarker-informed strategy to focus on tumor types where, we believe, the PVRIG/PVRL2 pathway may play a role. In addition, we completed enrollment in the dual

combination dose escalation study of COM701 with Opdivo® and plan to provide updated data from this study in the first half of 2021, when we also expect to provide initial results from the COM701 Phase 1 monotherapy expansion study. Furthermore, we are on-track to begin our Phase 1/2 triple combination study testing COM701 with Bristol Myers Squibb's Opdivo® and their investigational TIGIT inhibitor, at the second half of this year, to directly test our DNAM axis hypothesis through the simultaneous blockade of the PVRIG, TIGIT and PD-1 pathways."

"We remain focused on executing our science-driven clinical strategy to, hopefully, broaden the therapeutic potential of checkpoint inhibitors for the benefit of patient populations non-responsive to cancer immunotherapy. As the only company with wholly-owned clinical programs targeting both PVRIG and TIGIT, we are uniquely differentiated in the crowded immuno-oncology space," Dr. Cohen-Dayag concluded.

Second Quarter 2020 and Recent Highlights

- Announced FDA clearance of IND application for Phase 1/2 triple combination study of COM701 with Bristol Myers Squibb's Opdivo® (nivolumab) and TIGIT inhibitor.
    - Designed to evaluate the simultaneous blockade of three immune checkpoint pathways, PVRIG, TIGIT and PD-1.
    - Complementary to the Company's clinical strategy, the study will accelerate clinical evaluation of Compugen's DNAM axis hypothesis and biomarker-driven approach in advanced solid tumors to broaden the patient population responsive to cancer immunotherapy.
    - Initiation of triple combination study remains on-track to begin during 2H 2020
- Dosed the first patient in the monotherapy expansion cohort in the ongoing Phase 1 clinical trial of COM701.
- Presented updated data from the dose escalation arms of the Phase 1 trial of COM701 in patients with advanced solid tumors at the 2020 American Association for Cancer Research (AACR) Virtual Annual Meeting I (highlights):
    - COM701 was well-tolerated through 20 mg/kg IV Q4 weeks as a monotherapy and 10 mg/kg IV Q4 weeks in combination with Opdivo® (480 mg IV Q4 weeks) with no dose-limiting toxicities reported.
    - Encouraging disease control rates of 69% (11/16) for monotherapy and 75% (9/12) for the combination arm.
        - 50% of patients (6/12) in the combination arm remain on study, some with continued responses observed beyond 200 days of treatment.
    - Durable responses of stable disease for over six months in six of 28 patients (21%) across treatment arms.
    - Two confirmed partial responses, one from the monotherapy arm (microsatellite stable primary peritoneal cancer) and one from the combination arm

(microsatellite stable colorectal cancer); both patients remained on treatment at the presentation date.

- Dosed the first patient in a Phase 1 dose escalation clinical trial of COM902, an immuno-oncology therapeutic antibody targeting TIGIT, in patients with advanced malignancies.
- Granted EPO Patent No. 3295951, covering the composition of matter for COM701 and backup antibodies including any anti-PVRIG antibody having the binding fragments of COM701 or backup antibodies for the treatment of cancer.
- Published a peer-reviewed paper in *Cancer Immunology Research* in collaboration with Bayer, demonstrating *in vitro* T cell activation and *in vivo* anti-tumor activity of BAY 1905254, a first-in-class immuno-oncology antibody targeting ILDR2. ILDR2 is a novel immune checkpoint discovered computationally by Compugen which is currently being evaluated by Bayer in a Phase 1 study as monotherapy and in combination with Keytruda®.

Financial Results

Research and development expenses for the second quarter ended June 30, 2020 were $4.4 million, compared with $4.9 million in the comparable quarter in 2019. The decrease was primarily due to cost reduction measures announced by the Company in the first quarter of 2019, offset by an increase in expenses associated with our various Phase 1 clinical studies.

Net loss for the second quarter of 2020 was $6.2 million, or $0.08 per basic and diluted share, compared with a net loss of $6.0 million, or $0.10 per basic and diluted share, in the comparable quarter of 2019.

As of June 30, 2020, cash, cash related accounts and short-term and long-term bank deposits totaled approximately $136 million, compared with approximately $44 million as of December 31, 2019.

Conference Call and Webcast Information

The Company will hold a conference call today, July 30, 2020, at 8:30 AM ET to review its second quarter 2020 results. To access the conference call by telephone, please dial 1-888-407-2553 from the United States, or +972-3-918-0610 internationally. The call will also be available via live webcast through Compugen's website, located at the following link. Following the live audio webcast, a replay will be available on the Company's website.

(Tables to follow)

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 is headquartered in Israel, with offices in South San Francisco, CA. The Company'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 the expected timeline to provide data from the dose escalation study of COM701 with Opdivo® and from the COM701 Phase 1 monotherapy expansion study in the first half of 2021 and the expected timeline to begin the Phase 1/2 triple combination study testing COM701 with Bristol Myers Squibb's Opdivo® and their investigational TIGIT inhibitor. 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 could be affected by the outbreak and spread of COVID19, 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 COVID-19), Compugen may experience significant delays in the conduct of its clinical trials; 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 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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COMPUGEN LTD.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(U.S. dollars in thousands, except for share and per share amounts)

	Three Months Ended June 30,		Six Months Ended, June 30,	
	2020	**2019**	**2020**	**2019**
	Unaudited	**Unaudited**	**Unaudited**	**Unaudited**
Operating expenses				
Research and development expenses	4,447	4,870	9,159	11,205
Marketing and business development expenses	204	175	414	388
General and administrative expenses	2,131	1,962	4,607	3,928
Total operating expenses	**6,782**	**7,007**	**14,180**	**15,521**
Financial and other income, net	536	308	806	414
Loss before taxes on income	**(6,246)**	**(6,699)**	**(13,374)**	**(15,107)**
Taxes on income	-	722	-	722
Net loss	**(6,246)**	**(5,977)**	**(13,374)**	**(14,385)**
Basic and diluted net loss per ordinary share	(0.08)	(0.10)	(0.18)	(0.24)
Weighted average number of ordinary shares used in computing basic and diluted net loss per share	81,273,240	61,479,162	75,774,881	60,747,948

COMPUGEN LTD.
CONDENSED CONSOLIDATED BALANCE SHEETS DATA
(U.S. dollars, in thousands)

	June 30, 2020 Unaudited	December 31, 2019
ASSETS		
Current assets		
Cash, cash equivalents, short-term bank deposits and restricted cash	136,066	43,879
Other accounts receivable and prepaid expenses	1,088	1,121
Total current assets	137,154	45,000
Non-current assets		
Long-term prepaid expenses	1,219	693
Severance pay fund	2,513	2,485
Operating lease right to use asset	3,012	3,247
Property and equipment, net	2,022	2,338
Total non-current assets	8,766	8,763
Total assets	**145,920**	**53,763**
LIABILITIES AND SHAREHOLDERS EQUITY		
Current liabilities		
Other accounts payable, accrued expenses and trade payables	6,793	5,445
Current maturity of operating lease liability	519	600
Short-term deferred participation in R&D expenses	750	774
Total current liabilities	8,062	6,819
Non-current liabilities		
Long-term deferred participation in R&D expenses	2,421	2,691
Long-term operating lease liability	2,788	2,978
Accrued severance pay	3,182	2,954
Total non-current liabilities	8,391	8,623
Total shareholders' equity	129,467	38,321
Total liabilities and shareholders' equity	**145,920**	**53,763**