Bolt Biotherapeutics Reports Interim BDC-1001 Phase 1/2 Data Demonstrating a Safe and Well-tolerated Profile and Emerging Clinical Activity at the ESMO Immuno-Oncology Congress 2021

Company to continue monotherapy dose-escalation and evaluate weekly dose regimen

Combination dose-escalation study of BDC-1001 with Opdivo® on target to initiate by year end 2021

Live conference call and webcast today at 8:00 a.m. ET/5:00 a.m. PT

REDWOOD CITY, Calif., Dec. 6, 2021 -- Bolt Biotherapeutics, Inc. (Nasdaq: BOLT), a clinical-stage biotechnology company pioneering a new class of immuno-oncology agents that combine the targeting precision of antibodies with the power of both the innate and adaptive immune systems, today announced the presentation of interim clinical data from the company's ongoing Phase 1/2 study of BDC-1001, the company's lead immune-stimulating antibody conjugate (ISAC) in a poster session at the European Society for Medical Oncology Immuno-Oncology (ESMO I-O) Congress 2021, being held virtually from Dec. 6-11, 2021. The lead author for the poster is Manish Sharma, M.D., START Midwest, with contributions from Ecaterina Dumbrava, M.D., MD Anderson Cancer Center, and other colleagues from the U.S. and South Korea.

The company reported data from 57 subjects participating in an ongoing Phase 1/2 study of BDC-1001, across 16 different types of HER2-expressing solid tumors. BDC-1001 demonstrated a favorable safety and tolerability profile at all evaluated doses and schedules, showing early signs of clinical activity with corresponding biomarker changes in the tumor microenvironment of post-treatment tumor biopsies. BDC-1001 is an immune-stimulating antibody conjugate (ISAC) comprising a HER2-targeting biosimilar of trastuzumab conjugated with a non-cleavable linker to an innovative TLR7/8 agonist.

"The favorable safety profile and early indications of clinical disease control in the BDC-1001 study are encouraging," said Dr. Sharma, Associate Director of Clinical Research at START Midwest. "There is a clear need for well tolerated, durable treatments in the fight against cancer and I'm excited to see if BDC-1001 can deliver on that potential as we explore higher drug exposure levels."

The poster presentation at ESMO I-O reported new safety, pharmacokinetic/pharmacodynamic, and efficacy results for the ongoing Phase 1 dose-escalation portion of the BDC-1001 monotherapy trial. Fifty-seven subjects have been treated at increasing dose levels up to 20 mg/kg every three weeks and 12 mg/kg every two weeks, and data from these subjects demonstrate that:

- BDC-1001 continues to have a favorable safety and tolerability profile with mild (grade 1/grade 2) infusion related reactions in some patients and no dose-limiting toxicities at dose levels up to 20 mg/kg every three weeks and 12 mg/kg every two weeks. There was no indication of cytokine release syndrome (CRS), and a maximum tolerated dose (MTD) has not been reached.
- Early signs of clinical activity are noted in 13 of 40 tumor evaluable subjects with one durable partial response maintained through 52 weeks and multiple subjects achieving stable disease for >12 weeks.
- The pharmacokinetic (PK) data demonstrate increasing peak drug levels with increasing dose, and linearity of PK above the 5 mg/kg dose level. Clinical PK modeling predicts that target exposure levels can be achieved with weekly dosing.
- Plasma and tissue biomarker results show increase in multiple biomarkers indicative of myeloid cell and TLR 7/8 activation that is consistent with BDC-1001's mechanism of action. Increasing drug

exposure correlates with increases in plasma cytokines and corresponding biomarker changes in the tumor microenvironment of multiple post-treatment tumor biopsies, with intriguing signs of clinical disease control.

These encouraging data point to the need for increased drug exposure to optimize clinical benefit. The favorable safety profile of BDC-1001 allows for continued enrollment in the dose escalation portion of the study, and the Company's refined PK model based on data from more than 50 patients predicts that weekly administration will provide BDC-1001 exposures at or above the target exposure threshold. The data also support initiation of the combination therapy study with nivolumab (PD-1 inhibitor).

"Bolt Biotherapeutics is committed to agile clinical development based on data. In this Phase 1/2 study of BDC-1001, we have gained tremendous insight into the ability of this novel candidate to mobilize the patient's immune system in targeting the tumor and its microenvironment. The increases in myeloid cell infiltration and repolarization of macrophages we've seen in multiple post-treatment biopsies are provocative and consistent with our proposed mechanism of action," said Edith Perez, M.D., Chief Medical Officer of Bolt Biotherapeutics. "We look forward to exploring weekly dosing as we get closer to determining the recommended Phase 2 dose for BDC-1001 as monotherapy, and to initiating combination therapy with a checkpoint inhibitor."

Presentation Details
Title: Preliminary results from a phase 1/2 study of BDC-1001, a novel HER2 targeting TLR7/8 immune-stimulating antibody conjugate (ISAC), in patients (pts) with advanced HER2-expressing solid tumors
Lead author: Manish R. Sharma, M.D.
Presentation Number: 164P
Timing: On-demand access beginning Dec. 6 at 12:00 p.m. CET.

The poster presentation will be available on the ESMO I-O conference website and on Bolt's website.

Conference Call and Webcast Details

Bolt Biotherapeutics management will host a conference call for the investment community, in conjunction with the now virtual ESMO Immuno-Oncology Congress 2021, to discuss emerging clinical data and insights from the ongoing Phase 1/2 study today, Monday, December 6, 2021, at 8:00 a.m. ET/5 a.m. PT.

The conference call can be accessed by dialing +1 (833) 665-0609 within the U.S. or Canada or by dialing +1 (929) 517-0400 from international locations. The passcode for the call is 2633068. A live webcast, including slides, will be available on the Events & Presentations page of Bolt Biotherapeutic's website at www.boltbio.com. An archived replay can be accessed for 30 days following the webcast.

About the Boltbody™ Immune-Stimulating Antibody Conjugate (ISAC) Platform
ISACs are a new category of immunotherapy that combines the precision of antibody targeting with the strength of the innate and adaptive immune systems. Boltbody ISACs comprise three primary components: a tumor-targeting antibody, a non-cleavable linker, and a proprietary immune stimulant to activate the patient's innate immune system. By initially targeting a single marker on the surface of a patient's tumor cells, an ISAC can create a new immune response by activating and recruiting myeloid cells. The activated myeloid cells start a feed-forward loop by releasing cytokines and chemokines,

chemical signals that attract other immune cells and lower the activation threshold for an immune response. This reprograms the tumor microenvironment and invokes an adaptive immune response that targets the tumor, with the goal of durable responses for patients with cancer.

About Bolt Biotherapeutics, Inc.

Bolt Biotherapeutics, Inc. is a clinical-stage biotechnology company pioneering a new class of immuno-oncology agents that combine the targeting precision of antibodies with the power of both the innate and adaptive immune systems. Bolt's proprietary Boltbody™ Immune-stimulating Antibody Conjugates (ISACs) are designed to target tumor cells for elimination by myeloid cells, which then activates the myeloid cells to recruit the adaptive immune system in the anti-tumor response. This leads to the conversion of immunologically "cold" tumors to "hot" tumors. Bolt's lead candidate, BDC-1001, is a Boltbody ISAC comprised of a HER2-targeting biosimilar of trastuzumab conjugated with a non-cleavable linker to one of Bolt's proprietary TLR7/8 agonists for the treatment of patients with HER2-expressing solid tumors. Bolt is also advancing BDC-2034, a Boltbody ISAC targeting CEA, and a pipeline of other immuno-oncology products.

Forward-Looking Statements

This press release contains forward-looking statements about us and our industry that involve substantial risks and uncertainties and are based on our beliefs and assumptions and on information currently available to us. All statements other than statements of historical facts contained in this press release, including statements regarding optimizing the dose and finding the recommended Phase 2 dose for BDC-1001 and the potential initiation of an additional combination dose escalation study by year-end, are forward-looking statements. In some cases, you can identify forward-looking statements because they contain words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "will," or "would," or the negative of these words or other similar terms or expressions. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements represent our current beliefs, estimates and assumptions only as of the date of this press release and information contained in this press release should not be relied upon as representing our estimates as of any subsequent date. These statements, and related risks, uncertainties, factors and assumptions, include, but are not limited to the potential product candidates that we develop may not progress through clinical development or receive required regulatory approvals within expected timelines or at all; clinical trials may not confirm any safety, potency or other product characteristics described or assumed in this press release; such product candidates may not be beneficial to patients or become commercialized. These risks are not exhaustive. Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future. Further information on factors that could cause actual results to differ materially from the results anticipated by our forward-looking statements is included in the reports we have filed or will file with the SEC, including our Annual Report on Form 10-K for the year ended December 31, 2020. These filings, when available, are available on the

investor relations section of our website at investors.boltbio.com and on the SEC's website at www.sec.gov.

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