



Unum Therapeutics Reports Second Quarter 2019 Financial Results and Provides Corporate Updates

August 12, 2019

- Updated results from Phase 1 trial with ACTR707 in combination with rituximab in adults with relapsed/refractory non-Hodgkin lymphoma confirms the clinical activity achieved in previous cohorts with no adverse events of cytokine release syndrome or severe neurotoxicity –

- Phase 1 trial enrollment continuing with ACTR707 in combination with trastuzumab in HER2+ solid tumor cancers -

- IND-enabling studies underway with BOXR1030 in solid tumor cancers -

CAMBRIDGE, Mass., Aug. 12, 2019 (GLOBE NEWSWIRE) -- Unum Therapeutics Inc. (NASDAQ: UMRX), a clinical-stage biopharmaceutical company focused on developing curative cell therapies for cancer, today reported financial results and corporate updates for the second quarter ended June 30, 2019, and provided recent activities.

“During the quarter, we advanced our preclinical and clinical pipeline programs that are designed to improve the targeting and functionality of T cells to expand their use in hematologic and solid tumor cancers,” said Chuck Wilson, President and Chief Executive Officer of Unum. “Today, we reported preliminary results from Cohort 3 of the Phase 1 trial with ACTR707 in patients with relapsed or refractory non-Hodgkin lymphoma. We are very encouraged by the results from this trial that support our progress towards developing a competitive program with complete responses achieved in five of the 14 patients treated and no reported adverse events of cytokine release syndrome or severe neurotoxicity. Patient enrollment in Cohort 4 is now complete and we anticipate providing results from this cohort later this year. Our ACTR and BOXR platform initiatives in solid tumors also continued during the quarter, with Phase 1 trial enrollment activities progressing on our ACTR707 program in patients with HER2+ solid tumors. Our BOXR platform is designed to improve the functionality of engineered T cells by incorporating a “bolt-on” transgene to overcome resistance of the solid tumor microenvironment to T cell attack, and we are pleased to advance our first candidate from this platform, BOXR1030, towards clinical trials.”

Recent Program and Corporate Highlights

ACTR707 Hematologic Program Highlights:

- Preliminary results from Cohort 3 from the Phase 1 trial (ATTCK-20-03) in non-Hodgkin lymphoma:** Today, Unum provided preliminary results from patients treated in Cohort 3 in ATTCK-20-03, a Phase 1, multicenter, open-label, single-arm, dose-escalating trial evaluating ACTR707 in combination with rituximab in patients with relapsed/refractory CD20+ B cell non-Hodgkin lymphoma (r/r NHL) who, among other criteria, received adequate prior anti-lymphoma therapy, including anti-CD20 monoclonal antibody and chemotherapy. Among the 14 patients treated in Cohorts 1, 2 and 3, the majority (93%) were diagnosed with diffuse large B-cell lymphoma (DLBCL) and were heavily pre-treated with 57% having received three or more prior lines of therapy. Previously, results from the six patients treated in Cohort 1 (25M ACTR707+ T cells) and the three patients treated in Cohort 2 (40M ACTR707+ T cells) were presented at the American Society of Hematology (ASH) Annual Meeting in December 2018. As presented at ASH, complete responses were achieved in three of six patients (50%) from Cohort 1 and a complete response was achieved in one of three (33%) patients from Cohort 2. The overall response rate, including complete and partial responses, was 50% in Cohort 1 and 67% in Cohort 2.

As a preliminary update provided today, for the five patients treated in Cohort 3 (55M ACTR707+ T cells), a complete response was achieved in one of five patients (20%) with overall responses in four of five patients (80%). The overall responses achieved in this cohort included evidence of deepening responses in two patients whose stable disease improved after the initial response assessment at day 42 to a partial and a complete response, respectively, as of the data cutoff in May 2019 (Table 1).

Table 1: ACTR707 Preliminary Phase 1 trial efficacy results in r/r NHL (Cohorts 1-3)

Clinical Response (1)	Cohort 1 (n=6)	Cohort 2 (n=3)	Cohort 3 (n=5)	Cohorts 1-3 (n=14)
Complete Response	3	1	1	36% (5/14)
Partial Response	0	1	3	29% (4/14)
Indeterminate Response	1	0	0	7% (1/14)
Progressive Disease	2	1	1	29% (4/14)
Overall Response Rate	50% (3/6)	67% (2/3)	80% (4/5)	64% (9/14)
ACTR707 + T cells administered per patient (range)	25M (23-38M)	40M (30-50M)	55M (45-55M)	

(1) Data cutoff as of May 2019

Durable responses were observed in patients achieving a complete response with the durability of response ranging from 85-387+ days. In the first three cohorts, ACTR707 was well-tolerated in combination with rituximab. No dose-limiting toxicities (DLTs), no adverse events of cytokine release syndrome (CRS), and no severe neurological adverse events including neurotoxicity have been reported in Cohorts 1, 2 and 3 as of the May 2019 cutoff. Serious adverse events that were assessed by the investigator as possibly related to ACTR707 include two cases of febrile neutropenia and one case of cytopenia in Cohorts 1 and 2 (Table 2).

Table 2: ACTR707 Preliminary Phase 1 trial safety results in r/r NHL (Cohorts 1-3)

Safety Event (1)	Cohort 1 (n=6)	Cohort 2 (n=3)	Cohort 3 (n=5)
Dose-limiting toxicities	0	0	0
Severe neurologic events (> Grade 3)	0	0	0
CRS (any grade)	0	0	0
ACTR707-related SAEs	1	2	0
febrile neutropenia	1	1	0
cytopenia	0	1	0

(1) Data cutoff as of May 2019

- **Cohort 4 (80M ACTR707+ T cells) enrollment proceeding in ATTCK-20-03:** Enrollment in Cohort 4 of ATTCK-20-03 is complete and Unum plans to report updated results from ATTCK-20-03, including data from patients in Cohort 4, in late 2019.

ACTR707 Solid Tumor Program Highlights:

Phase 1 trial (ATTCK-34-01) with ACTR707 in HER2+ advanced solid tumor cancers ongoing: Clinical trial site activation, patient identification, screening and enrollment continues in the first dose cohort of ATTCK-34-01, a Phase 1, multicenter, open-label, single-arm, dose-escalation trial evaluating ACTR T cells (ACTR707) in combination with trastuzumab for the treatment of patients with HER2+ advanced cancers. Unum plans to report updates from the ATTCK-34-01 trial including patient enrollment status and preliminary safety data at the end of 2019.

Preclinical data demonstrate that, unlike traditional trastuzumab-based CAR-T cells that target HER2, ACTR707+ T cells administered with trastuzumab are highly selective for HER2-overexpressing tumor cells and discriminate against cells from normal tissues that express low levels of HER2. The preclinical activity of ACTR707+ T cell has been shown to be dose-dependent demonstrating control of ACTR707 activity by modulation of trastuzumab concentration. Together, the preclinical data suggest that ACTR cells in combination with trastuzumab may exhibit an improved clinical therapeutic index.

BOXR Solid Tumor Program Highlights:

- **Preclinical development ongoing for BOXR1030 targeting GPC3+ advanced cancers:** Unum's Bolt-On Chimeric Receptor (BOXR) platform is designed to improve engineered T cell functionality by identifying and incorporating a "bolt-on" transgene to overcome resistance of the solid tumor microenvironment to T cell attack. BOXR bolt-on transgenes identified in this platform are designed to address a variety of immunosuppressive mechanisms of solid tumors including metabolic competition, immune suppressor cells, and exhaustion due to chronic stimulation. These transgenes could offer the potential to add new functionality to T cells not achievable by traditional small molecule or antibody-based approaches. In addition, the BOXR bolt-on transgenes may be incorporated into several different types of therapeutic T cells, including ACTR T cells and CAR-T cells. Using a variety of BOXR bolt-on transgenes and tumor targeting technologies, Unum is building a pipeline of preclinical candidates to address a diverse range of solid tumor indications.

In early 2019, Unum nominated BOXR1030 as the first product candidate from the BOXR platform. In addition to research to further characterize its mechanism of action, preclinical studies of BOXR1030 are underway to support the filing of an investigational new drug (IND) application for BOXR1030. Unum plans to present preclinical data regarding BOXR1030 in the second half of 2019.

ACTR087 Hematologic Program Highlights:

- **Dose escalation continuing in Phase 1 (ATTCK-17-01) trial in multiple myeloma:** Dose escalation continued during the second quarter in the ATTCK-17-01 trial combining ACTR087 with low doses of SEA-BCMA antibody. Enrollment and dosing of patients is complete in Cohort 4 (30M ACTR087+ T cells and 2.0 mg/kg SEA-BCMA) and Cohort 5 (50M ACTR087+ T cells and 2.0 mg/kg SEA-BCMA). Unum expects to report data from multiple dose cohorts in the second half of 2019.
- **Treatment continuing for responding patients in Phase 1 (ATTCK-20-2) trial in non-Hodgkin lymphoma:** In July 2019, Unum announced that the U.S. Food and Drug Administration (FDA) placed a clinical hold (since communicated by the FDA as a partial clinical hold) on the Phase 1 trial (ATTCK-20-2) evaluating Unum's ACTR087 in combination with

rituximab in patients with CD20+ r/r NHL. The clinical hold was initiated following the submission of a safety report by Unum to the FDA regarding one patient in the safety expansion cohort of the trial who experienced serious adverse events including neurotoxicity, cytomegalovirus infection, and respiratory distress. As an update to this case, this patient subsequently experienced septic shock that was fatal and reported by the investigator as related to ACTR087. Patients who previously received ACTR087 and have ongoing clinical responses continue to receive rituximab infusions, with continued monitoring for adverse events. Unum continues to work closely with the FDA to further review these events and plans to report data from the ATTCK-20-2 trial at the end of 2019.

Corporate Highlights:

- Announced new additions to its leadership team including Matthew Osborne as Chief Financial Officer, Mert Aktar as of Head of Business and Corporate Development and Jessica Sachs, M.D., as Chief Medical Officer replacing Michael Vasconcelles, M.D., who transitioned to a clinical advisory role. Each new executive has a proven track record of excellence and adds decades of experience to the Unum leadership team.
- Announced the appointments of Arlene Morris and Matthew Ros to its Board of Directors. Ms. Morris and Mr. Ros replaced Robert Perez and Liam Ratcliffe, who transitioned from Unum's Board of Directors in conjunction with their new positions within the biotechnology industry. Ms. Morris and Mr. Ross bring significant commercial, clinical and operational experience within the oncology field. Ms. Morris brings extensive corporate and business development experience in the pharmaceutical and biotechnology industries from numerous management and board roles, while Mr. Ros adds specific commercial experience, particularly with oncology products.
- Entered into an agreement with Harbour Antibodies BV, a wholly-owned subsidiary of Harbour BioMed, granting Unum rights to utilize Harbour Antibodies' H2L2 Harbour Mice® platform. The agreement enables Unum to discover and incorporate fully-human antibody sequences into its novel ACTR and BOXR platforms to further enable and accelerate Unum's preclinical discovery and development efforts.

Second Quarter 2019 Financial Results

- **Collaboration Revenue:** Collaboration revenue recognized during the second quarter ended June 30, 2019 was \$3.1 million, compared to \$1.7 million in the same period of 2018. The increase reflects the recognition of a portion of the upfront payment received from Seattle Genetics, Inc. under Unum's collaboration agreement as well as reimbursements of research and development costs attributed to the collaboration agreement.
- **R&D Expenses:** Research and development expenses were \$10.6 million for the second quarter ended June 30, 2019, compared to \$9.1 million for the same period of 2018. The increase primarily reflects higher clinical trial costs for the active Phase 1 trials, as well as increased personnel-related costs.
- **G&A Expenses:** General and administrative expenses for the second quarter ended June 30, 2019, were \$3.1 million, compared to \$2.0 million for the same period of 2018. The increase is primarily related to higher personnel related costs due to increased headcount and increased expenses around operating as a public company.
- **Net Loss:** Net loss attributable to common stockholders was \$10.5 million, or \$0.34 per share, for the second quarter ended June 30, 2019, and \$9.0 million, or \$0.31 per share, for the same period of 2018.
- **Cash and Cash Equivalents:** As of June 30, 2019, Unum had cash and cash equivalents of \$55.9 million. Unum believes that its existing cash and cash equivalents will fund operating expenses and capital expenditure requirements into early 2021.

Investor Call and Webcast Information

Unum will host a live conference call and webcast today, August 12, 2019, at 4:30 p.m. ET, to discuss these financial results and company updates. To access the call, please dial 866-300-3411 (domestic) or 636-812-6658 (international) and refer to conference ID number 5658375. A webcast will be available at unumrx.com at least 10 minutes before the event begins. The archived webcast will be available at the same location approximately two hours after the event and will be archived for 90 days.

About Unum Therapeutics

Unum Therapeutics is a clinical-stage biopharmaceutical company focused on developing curative cell therapies to treat a broad range of cancer patients. Unum's novel proprietary technologies include Antibody-Coupled T cell Receptor (ACTR), an autologous engineered T-cell therapy that combines the cell-killing ability of T cells and the tumor-targeting ability of co-administered antibodies to exert potent antitumor immune responses, and Bolt-On Chimeric Receptor (BOXR), designed to improve the functionality of engineered T cells by incorporating a "bolt-on" transgene to overcome resistance of the solid tumor microenvironment to T cell attack. Unum has multiple programs in Phase 1 clinical testing, including ACTR707 used in combination with rituximab in adult patients with r/r NHL and used in combination with trastuzumab in adult patients with HER2+ advanced cancer, and ACTR087 used in combination with the novel antibody SEA-BCMA in r/r multiple myeloma. The Company is headquartered in Cambridge,

MA.

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Forward looking Statements

This press release contains forward-looking statements including, without limitation, statements regarding our future expectations, plans and prospects, including projections regarding future revenues and financial performance, our long-term growth, enrollment and results for our preclinical and clinical activities, the development of our product candidates, including the lead ACTR product candidates and the BOXR platform and product candidates, non-clinical or clinical options to resolve the partial clinical hold on ATTCK-20-2, and the anticipated timing and success of any of our preclinical studies, clinical trials and regulatory filings, as well as other statements containing the words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "project," "should," "target," "will," or "would" and similar expressions, constitute forward-looking statements within the meaning of the safe harbor provisions of The Private Securities Litigation Reform Act of 1995, as amended. We may not actually achieve the forecasts disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results could differ materially from the projections disclosed in the forward-looking statements we make as a result of a variety of risks and uncertainties, including risks related to the accuracy of our estimates regarding expenses, future revenues, capital requirements, and the need for additional financing, the success, cost and timing of our product development activities and clinical trials, our ability to obtain and maintain regulatory approval for our product candidates, and the other risks and uncertainties described in the "Risk Factors" sections of our public filings with the Securities and Exchange Commission. In addition, the forward-looking statements included in this press release represent our views as of the date hereof. We anticipate that subsequent events and developments may cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to the date hereof.

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UNUM THERAPEUTICS INC. CONSOLIDATED STATEMENTS OF OPERATIONS (unaudited, \$ in thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Collaboration revenue	\$ 3,138	\$ 1,666	\$ 6,191	\$ 3,886
Operating expenses:				
Research and development	10,617	9,126	23,020	17,268
General and administrative	3,062	1,979	5,553	3,043
Total operating expenses	13,679	11,105	28,573	20,311
Loss from operations	(10,541)	(9,439)	(22,382)	(16,425)
Other income (expense):				
Interest income	25	259	175	340
Other income, net	—	157	—	327
Total other income, net	25	416	175	667
Net loss	(10,516)	(9,023)	(22,207)	(15,758)
Accretion of redeemable convertible preferred stock to redemption value	—	—	—	(16)
Net loss attributable to common stockholders	\$(10,516)	\$(9,023)	\$(22,207)	\$(15,774)
Net loss per share attributable to common stockholders, basic and diluted	\$(0.34)	\$(0.31)	\$(0.73)	\$(0.80)
Weighted average common shares outstanding, basic and diluted	30,505,773	29,155,790	30,295,557	19,732,542

UNUM THERAPEUTICS INC. CONSOLIDATED SELECTED BALANCE SHEET DATA (unaudited, in thousands)

	June 30, 2019	December 31, 2018
Cash, cash equivalents and marketable securities	\$ 55,863	\$ 78,594
Working capital	\$ 34,291	\$ 56,057
Total assets	\$ 69,308	\$ 85,927
Total liabilities	\$ 29,550	\$ 25,693

Total stockholders' equity

\$ 39,758

\$ 60,234



Source: Unum Therapeutics Inc.