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**NASDAQ: TRIL
TSX: TRIL**

TRILLIUM PROVIDES UPDATE ON SMALL MOLECULE PROGRAMS

Prioritizing the TTI-2341 EGFR inhibitor program for treatment of brain cancers

TORONTO, July 5, 2017 – Trillium Therapeutics Inc. (NASDAQ/TSX: TRIL), a clinical stage immuno-oncology company developing innovative therapies for the treatment of cancer, today provided an update on its preclinical small molecule programs.

Trillium's small molecule programs are built upon a proprietary fluorine-based chemistry platform. Incorporation of fluorine into small molecules can improve potency, absorption and blood-brain-barrier (BBB) penetration. It can also reduce the formation of toxic metabolites and increase a molecule's half-life. Trillium has applied its unique medicinal chemistry platform to design proprietary brain-penetrant, selective and potent orally available small molecules, including epidermal growth factor receptor (EGFR) and bromodomain and extraterminal (BET) inhibitors.

TTI-2341:

A combination of molecular design, novel fluorine-based chemical synthesis, and extensive biological testing led to the identification of TTI-2341, a novel brain-penetrant, second generation, covalent EGFR inhibitor. Trillium has benchmarked the compound against a second- and a third-generation EGFR inhibitor (both approved for the treatment of non-small cell lung cancer). This comparison included measurements of BBB penetration, as well as retention and the ratio of free to bound drug in the brain. Based on the results the company has concluded that TTI-2341 appears to be a viable and competitive drug candidate for the treatment of brain cancers and brain metastases. The company plans to continue to pursue internal development of TTI-2341 while undertaking partnering discussions in parallel.

TTI-281:

The company has completed its planned preclinical development program for its bromodomain inhibitor (TTI-281). The company believes that TTI-281 represents a

unique opportunity to reduce the expression of c-Myc, a proto-oncogene that contributes to the pathogenesis of many cancers but has proven to be difficult to target pharmacologically. However, with the reprioritization of the EGFR program and the majority of Trillium's resources focused on the various CD47-targeting clinical trial efforts, the company is now initiating a partnering effort for further development of this program.

Discovery Program:

The major impetus for acquiring the company's fluorine-based medicinal chemistry platform was to gain an internal discovery engine that can be utilized to rapidly generate drug candidates to promising cancer targets. Trillium has launched a discovery program that is focussed on an undisclosed early-stage immuno-oncology target. The company is also evaluating validated cancer targets, with the goal of producing drug candidates that through novel fluorine chemistry are differentiated from existing approved therapies with respect to potency, oral absorption or BBB penetration.

About Trillium Therapeutics

Trillium Therapeutics Inc. is a clinical stage immuno-oncology company developing innovative therapies for the treatment of cancer. The company's lead program, TTI-621, is a SIRPaFc fusion protein that consists of the CD47-binding domain of human SIRPa linked to the Fc region of a human immunoglobulin (IgG1). It is designed to act as a soluble decoy receptor, preventing CD47 from delivering its inhibitory ("do not eat") signal. Neutralization of the inhibitory CD47 signal enables the activation of macrophage anti-tumor effects by pro-phagocytic ("eat") signals. A Phase 1 clinical trial (NCT02663518) evaluating intravenous dosing of SIRPaFc in patients with advanced cancer is ongoing, and a second Phase 1 trial evaluating direct intratumoral injections is underway in solid tumors and mycosis fungoides (NCT02890368). TTI-622 is an IgG4 SIRPaFc protein, which is primarily being developed for combination therapy. An IND filing is targeted for 2H/17. Trillium also has a proprietary medicinal chemistry platform, using unique fluorine chemistry, which permits the creation of new chemical entities from validated drugs and drug candidates with improved pharmacological properties. Stemming from this platform, the company's most advanced preclinical program is an orally-available epidermal growth factor receptor antagonist with increased uptake and retention in the brain. In addition, a number of compounds directed at undisclosed immuno-oncology targets are currently in the discovery phase.

For more information visit: www.trilliumtherapeutics.com

Caution Regarding Forward-Looking Information

This press release contains forward-looking statements within the meaning of applicable United States securities laws and forward looking information within the meaning of Canadian securities laws (collectively, "forward-looking statements"). Forward-looking statements in this press release include statements about, without limitation, Trillium's belief about the viability and competitiveness of its small molecule products, their performance and differentiated profile versus benchmarked compounds, and their ability to penetrate the BBB and have potential benefit in brain cancers and brain metastases. With respect to the forward-looking statements contained in this press

release, Trillium has made numerous assumptions regarding, among other things: the effectiveness of preclinical studies; and the completeness, accuracy and usefulness of the data. While Trillium considers these assumptions to be reasonable, these assumptions are inherently subject to significant scientific, business, economic, competitive, market and social uncertainties and contingencies. Additionally, there are known and unknown risk factors that could cause Trillium's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements contained in this press release. Known risk factors include, among others: results from preclinical studies may not be indicative of results from human clinical trials; given the early stage of Trillium's product development, there can be no assurance that its research and development programs will result in regulatory approval or commercially viable products; Trillium may not obtain partners for further development of Trillium's products; economic and market conditions may worsen; and market shifts may require a change in strategic focus. A more complete discussion of the risks and uncertainties facing Trillium appears in Trillium's Annual Report on Form 20-F and Trillium's continuous disclosure filings, which are available at www.sedar.com and at www.sec.gov. All forward-looking statements herein are qualified in their entirety by this cautionary statement, and Trillium disclaims any obligation to revise or update any such forward-looking statements or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments, except as required by law.

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Contact:

James Parsons
Chief Financial Officer
Trillium Therapeutics Inc.
416-595-0627 x232
james@trilliumtherapeutics.com
www.trilliumtherapeutics.com

Mark Corbae
Canale Communications for Trillium Therapeutics
619-849-5375
mark@canalecomm.com