N E W S R E L E A S E

Molecular Templates to Ring NASDAQ Closing Bell
Friday, September 1, 2017

AUSTIN, Texas, Aug. 30, 2017 -- Molecular Templates, Inc., (Nasdaq: MTEM) a clinical stage biopharmaceutical company developing next generation immunotoxins called Engineered Toxin Bodies (ETBs) for the treatment of cancer, announced that the Company will ring the NASDAQ stock market closing bell on Friday, September 1, 2017 at 4:00 p.m. EDT.

The bell ringing will celebrate the Company's recently completed merger with Threshold Pharmaceuticals. The newly combined company changed its name to Molecular Templates Inc. and began trading on the Nasdaq Global Market on Wednesday August 2nd under the ticker symbol MTEM. Company employees will join Chief Executive Officer and Chief Scientific Officer Dr. Eric Poma as he performs the honorary closing bell ringing ceremony.

A live stream of the ceremony will be available at **http://www.nasdaq.com/about/marketsitetowervideo.asx** beginning at 3:50 p.m. EDT.

"Ringing the NASDAQ closing bell is an exciting way to celebrate our recent corporate milestones, including the completion of the merger with Threshold Pharmaceuticals and the closing of an important equity financing transaction," said Dr. Poma. "We are now well funded to advance our clinical candidates MT-3724 and evofosfamide, and leverage our novel ETB platform to expand our growing pipeline of product candidates."

About MT-3724
MT-3724 is Molecular Templates' lead drug candidate. MT-3724 is in a Phase 1 clinical trial in heavily pre-treated non-Hodgkin's lymphoma patients at the Memorial Sloan-Kettering Cancer Center, the MD Anderson Cancer Center, and the University of Arizona. An expansion arm of the Phase 1 study focused on relapsed and refractory diffuse large lymphoma patients is set to commence enrollment. More information is available at clinicaltrials.gov.

About Evofosfamide
Evofosfamide (formerly TH-302) is an investigational hypoxia-activated prodrug of a bis-alkylating agent that is preferentially activated under severe hypoxic tumor conditions, a feature of many solid tumors. Areas of low oxygen levels (hypoxia) in solid tumors are due to insufficient blood vessel supply. Similarly, the bone marrow of patients with hematological malignancies has also been shown, in some cases, to be severely hypoxic. A Phase 1 clinical trial evaluating evofosfamide in combination with the

immune checkpoint antibody, ipilimumab, is currently ongoing at the M.D. Anderson Cancer Center in Houston Texas. At the same time, while the PMDA has just indicated that the current analysis of the MAESTRO data is not sufficient to support the submission of a New Drug Application (NDA) in Japan, Molecular Templates is in ongoing discussions with the PMDA to clarify the scope of an additional study, the results of which may then support the submission of an NDA for evofosfamide in Japan.

About Molecular Templates
Molecular Templates (NASDAQ: MTEM) is focused on the discovery, development and commercialization of next-generation immunotoxins called Engineered Toxin Bodies (ETBs) for the treatment of cancers and other serious diseases. For additional information, please visit Molecular Templates' website at www.mtem.com.

Forward-Looking Statements
This press release contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statement of historical facts, included in this press release regarding Molecular Templates' strategy, future operations and plans are forward-looking statements. Examples of such statements include, but are not limited to, statements relating to the development, potential benefits and uses of and markets for Molecular Templates' product candidates, including MT-3724, MT-4019 and evofosfamide, and anticipated clinical trials, including timing and potential results. Actual results or events could differ materially from the plans, intentions, expectations and projections disclosed in the forward-looking statements. Various important factors could cause actual results or events to differ materially from the forward-looking statements that Molecular Templates makes, including, but not limited to, the risk that trials and studies may be delayed and may not have satisfactory outcomes, potential adverse effects arising from the testing or use of MT-3724, MT-4019 and evofosfamide and other risks described in the "Risk Factors" section of the proxy statement/prospectus/information statement filed by Threshold with the SEC on June 30, 2017. Molecular Templates does not assume any obligation to update any forward-looking statements, except as required by law.

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