FOR IMMEDIATE RELEASE

TransMolecular Reports Positive Results from Phase 1 Trial of ^{131}Iodine-TM601 in Metastatic Melanoma

- ASCO abstract re-confirms that intravenous radiolabeled TM601 can cross the blood-brain barrier and bind to tumor tissue-

CAMBRIDGE, MA – June 2, 2008 – TransMolecular, Inc., a biotechnology company focused on targeted therapies for cancer, today announced positive interim Phase 1 data for its intravenous formulation of ^{131}I-TM601 in metastatic melanoma in a published abstract at the 44th Annual Meeting of the American Society of Clinical Oncology (ASCO). The Phase 1 study demonstrated that intravenously administered radiolabeled TM601 is able to cross the blood-brain barrier, specifically bind to tumor tissue, and is actively internalized by tumor cells, including metastases to the central nervous system. The data were highlighted in ASCO abstract number 20003. This report extends positive data presented by the Company in recurrent glioma in October 2007 at the American Society for Therapeutic Radiology and Oncology Meeting.

"The very specific binding of ^{131}I-TM601 to tumor tissue and its active uptake into cancer cells means that we are able to deliver a very targeted, concentrated dose of radiation to tumors," said Dr. John Fiveash, M.D., Radiation Oncology, University of Alabama at Birmingham, the Principle Investigator and lead author of the abstract. "The therapeutic dose of radiation needed may be significantly smaller than that of conventional treatment regimens, which may explain the low toxicity demonstrated by the peptide in clinical trials. We are therefore very encouraged by the therapeutic potential of ^{131}I-TM601, as new treatment options are needed to help patients with metastatic melanoma."

The purpose of the Phase 1 study was to determine whether intravenous administration of radiolabeled TM601 would result in intratumoral uptake in patients with a variety of metastatic cancers refractory to treatment. The current abstract reports results from a subset of seven patients on the trial, all with metastatic melanoma. Patients received a test dose of 0.2 mg of TM601 labeled with 10 mCi of ^{131}Iodine radioisotope. Sequential whole body gamma camera images were then collected at five time points — immediately following administration, 3 hours, 24 hours, 48-72 hours, and 168 hours post-administration – to determine tumor uptake and perform dosimetry analysis. Patients whose images indicated tumor-specific uptake received a second therapeutic dose of 0.6 mg TM601 labeled with 30 mCi of ^{131}Iodine radioisotope one week later.

Trial results revealed that all six of the evaluable patients with metastatic melanoma demonstrated tumor-specific uptake of radiolabeled TM601 based on the whole body

planar gamma camera imaging. Moreover, tumor uptake was observed in metastases in the central nervous system, as well as extracranial sites. No dose-limiting toxicities were observed. The seventh patient did not complete imaging assessments and was therefore not considered to be evaluable.

Michael Egan, President and Chief Executive Officer of TransMolecular, commented, "The positive results from this trial support our recent initiation of Phase 2 trials in melanoma and malignant glioma with intravenous radiolabeled TM601, as well as our extension of this Phase 1 study to gather data sets across additional cancers to further inform our future clinical strategy for the candidate."

Mr. Egan continued, "Recent studies have also demonstrated anti-angiogenic activity for TM601 and its potential to affect tumor growth without linking it to radiation, so we have initiated a Phase 1 trial with the unlabeled version of TM601. Additionally, because of TM601's ability to deliver an extremely targeted dose of radiation to tumor cells, we are exploring its use as a mechanism for carrying other cancer treatments, such as chemotherapy, to cancer cells. The potential to use TM601 on its own or in combination with other treatments, its therapeutic utility in multiple cancer types, and ability to be administered both intravenously and locally strongly confirms the broad applicability of this therapeutic platform for targeted cancer treatment."

In October 2007, TransMolecular reported data from this Phase 1 trial in a subset of five patients with recurrent or refractory malignant glioma. Analysis of this subset demonstrated that intravenously administered radiolabeled TM601 was able to cross the blood-brain barrier and bind to tumor tissue. Moreover, one of the five glioma patients treated on the study demonstrated a reduction in the volume of enhancement on MRI scan, suggesting possible tumor response to treatment.

About TM601

TM601 is a novel synthetic peptide derived from scorpion venom, which is highly specific and selective in targeting both primary tumors and metastases. TM601 targets and binds to receptors expressed on tumor cells, but not on normal, healthy cells. When ^{131}Iodine radiolabeled TM601 is administered, it is actively taken up into these tumor cells, delivering a highly concentrated dose of radiation to kill the tumor cells without affecting nearby healthy cells. TransMolecular is also exploring the potential for TM601 to deliver additional therapeutic agents to tumor cells. The data obtained from preclinical and clinical studies also suggest that native TM601 may affect a tumor's ability to grow and spread without added radiation through an anti-angiogenic mode-of-action. The Company's robust development plan for TM601 reflects its broad platform potential for multiple applications in cancer. The FDA has granted the radiolabeled drug, ^{131}I-TM601, orphan drug status for patients with high-grade and malignant glioma, as well as a Fast Track designation. Unlabeled TM601 has orphan status in the US for malignant glioma.

About Metastatic Melanoma

In the U.S., an estimated 60,000 people are diagnosed each year with melanoma, the deadliest form of skin cancer. In 2008, 8,000 people are expected to die from the disease. The incidence of new cases has more than doubled in the past 30 years. There are no currently approved therapies for metastatic melanoma that have demonstrated improved survival for patients.

About TransMolecular, Inc.

TransMolecular, Inc. is a privately held, venture capital backed biotechnology company committed to discovering, developing and commercializing novel and proprietary products to diagnose and treat cancers that have inadequate treatment alternatives. TransMolecular's product pipeline is based on a protein platform that employs a therapeutically active polypeptide derived from scorpion venom. The company is currently exploring the use of this platform for broad applications to diagnose and treat cancers and other human diseases. More information can be found at www.transmolecular.com.

This press release contains forward-looking statements. The Company wishes to caution the reader of this press release that actual results may differ from those discussed in the forward-looking statements and may be adversely affected by, among other things, risks associated with litigation, clinical trials, the regulatory approval process, reimbursement policies, commercialization of new technologies, intellectual property, and other factors.

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