



FOR IMMEDIATE RELEASE

TransMolecular Presents New Data Highlighting the Anti-angiogenic and Tumor-targeting Properties of TM601 at ASCO Annual Meeting

CAMBRIDGE, MA – June 1, 2009 – TransMolecular, Inc. today announced new data highlighting the anti-angiogenic and tumor-targeting properties of TM601 in a poster presentation and in a published abstract at the 45th Annual Meeting of the American Society of Clinical Oncology (ASCO). In a clinical study of patients with recurrent glioblastoma, the first cohort of patients analyzed showed correlative reductions in vascular perfusion and prolongation of progression-free survival. A separate clinical study, utilizing radiolabeled TM601, demonstrated highly specific tumor uptake of intravenously delivered ¹³¹I-TM601 in several different primary and metastatic tumor types, including glioma, metastatic melanoma, pancreatic cancer, prostate cancer and non-small cell lung cancer. Of note, selective tumor-specific uptake of ¹³¹I-TM601 was observed in six cases of melanoma with metastases in the brain, demonstrating that ¹³¹I-TM601 localized to metastatic tumors across the blood-brain barrier. TM601 is a novel, wholly synthetic peptide, found to have robust anti-angiogenic activity in neovascular diseases, including cancer and ophthalmic disease.

Alison O'Neill, M.D., Vice President, Medical Affairs of TransMolecular, said, "Both of these studies provide important confirmatory information about our cancer program and the unique peptide, TM601, on which it is based. The data on unlabeled TM601 reveals that vascular perfusion is potentially a biomarker for TM601 treatment response, and the activity seen in this study is consistent with the unique anti-angiogenic activity of the compound, which we reported at a recent medical meeting. The published abstract provides important proof-of-principle for the successful intravenous delivery of ¹³¹I-TM601 to several different tumor types throughout the body. In addition, the data provide additional validation for our approach of using the TM601 tumor-targeting platform as a powerful tool to deliver payloads of relevant cancer therapeutics to malignant tumors scattered throughout the body, including within the central nervous system."

"These two studies are part of TransMolecular's extensive clinical development strategy for the TM601 platform, which has included numerous clinical studies enrolling many patients," said Robert Radie, President and Chief Executive Officer of TransMolecular. "We therefore believe that the positive results we have seen so far from these studies provide important information on the anti-cancer activity of the peptide and its broad applicability across many tumor types."

Poster Presentation #2041 Details

Six patients with recurrent glioblastoma have been enrolled in the clinical study of intravenous unlabeled TM601, which is utilizing perfusion MRI to monitor the anti-

angiogenic effects of TM601. Initially, all patients received a test dose of 10mCi ¹³¹I-TM601 to demonstrate tumor-specific uptake prior to receiving intravenous treatment doses of 0.04mg/kg unlabeled TM601 weekly for three weeks in a four-week cycle; cyclic treatment continued until tumor progression. On week four of each cycle, patients were evaluated with conventional and dynamic susceptibility contrast MRI to assess perfusion. Results demonstrate that two of six patients in the first dosing cohort have exhibited a greater than 25% reduction in relative cerebral blood flow and/or relative cerebral blood volume, compared to baseline. Importantly, both patients that demonstrated these improvements in perfusion MRI have also experienced extended response to TM601.

Published Abstract #e14507 Details

The abstract details imaging and safety data from a clinical study of intravenous ¹³¹I-TM601 in patients with metastatic solid tumors of a variety of histologic types. Initially, all patients received an intravenous imaging test dose of 10mCi/0.2mg ¹³¹I-TM601 to demonstrate tumor localization. Patients that did not demonstrate localization received a second imaging test dose of 20 mCi/0.4mg ¹³¹I-TM601. Only patients showing tumor localization without toxicity continued in the study and received an intravenous treatment dose of 30 mCi/0.6mg ¹³¹I-TM601.

According to the abstract, 44 patients received intravenous doses of ¹³¹I-TM601 without dose-limiting toxicity, with 31 of 44 (70%) demonstrating tumor-specific uptake on follow-up gamma camera or SPECT imaging. Tumor-specific uptake was observed in 7/8 malignant glioma patients, 7/7 metastatic melanoma patients, 3/4 non-small cell lung cancer patients, 6/7 colon cancer patients, 2/3 pancreatic cancer patients, 2/2 prostate cancer patients, 1/4 breast cancer patients, and one evaluable patient each with transitional cell carcinoma, pleomorphic xanthoastrocytoma and metastatic paraganglioma. Importantly, all patients with melanoma metastatic to the brain demonstrated tumor-specific uptake of ¹³¹I-TM601, which confirms prior studies that have shown that ¹³¹I-TM601 can localize to tumors across the blood-brain barrier.

About TM601

TM601 is a novel, wholly synthetic peptide found to have robust anti-angiogenic activity in neovascular diseases, including cancer and ophthalmic disease.

For oncology applications, TM601 is highly specific and selective in targeting both primary tumors and metastases in the periphery and in the central nervous system. TM601 has the unique properties of highly specific tumor cell binding, uptake and internalization. Clinical studies confirm that TM601 targets and binds to a receptor expressed on a wide range of tumor cells, but not on normal, healthy cells. TransMolecular is expanding the TM601 tumor-targeting platform to deliver a range of therapeutic agents, including novel and currently used chemotherapeutic agents, as well as RNAi molecules, to tumor cells.

Most recently, the effects of TM601 on the neovasculature were validated in animal models of ophthalmic disease, including wet age-related macular degeneration (AMD).

About TransMolecular, Inc.

TransMolecular, Inc. is committed to discovering and developing novel therapeutic products that help patients combat cancer and neovascular diseases. TransMolecular's product pipeline is based on the TM601 platform, a novel synthetically derived

polypeptide, which has both highly specific tumor binding properties and anti-angiogenic therapeutic properties. 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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