



FOR IMMEDIATE RELEASE

TransMolecular Presents New Information on Distinct Anti-Angiogenic Mechanism-of-Action of TM601

-Data presented at ARVO demonstrate that TM601 binds to annexin A2 and causes new blood vessel regression-

-Compound's unique activity may address ophthalmic disease and oncology-

CAMBRIDGE, MA –May 4, 2009 – TransMolecular, Inc. today presented preclinical data at the Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting demonstrating new information on the anti-angiogenic mechanism-of-action of TM601. According to the abstract, TM601 binding co-localizes with annexin A2 on the surface of activated vascular endothelial cells in choroidal neovascularization (CNV) lesions, induces apoptosis and causes CNV regression. The data were highlighted in ARVO poster number 1164/D1126. TM601 is a novel, wholly synthetic peptide, found to have robust anti-angiogenic activity in neovascular diseases, including ophthalmic disease and cancer.

“The binding of TM601 to annexin A2 has important implications for ophthalmic disease,” said Alison O’Neill, M.D., Vice President, Medical Affairs of TransMolecular. “For the first time, our scientists and academic collaborators have shown that annexin A2 is over-expressed in neovascular diseases in the eye. As a result of its selective binding to annexin A2, we believe that TM601 not only potentially causes the regression of existing new blood vessels, but also prevents new blood vessel formation. TM601 is therefore a potentially promising therapeutic candidate for eye diseases and warrants further study.”

CNV refers to the creation of new blood vessels (neovascularization) in the choroid layer of the eye, and is a hallmark of advanced wet age-related macular degeneration (AMD). The purpose of the study was to investigate the localization of TM601 to new blood vessels, as well as the effects of intraocular and periocular injections of TM601 in a preclinical model of CNV. Annexin A2 has previously been shown to affect a diverse set of processes, including cell migration, plasmin formation, angiogenesis, and tumor development and progression.

According to the abstract, intraocular injection of 50 µg of TM601 at the time of and one week after laser-induced rupture of Bruch’s membrane resulted in a 50.4% reduction in CNV area, compared to vehicle-injected eyes. When 50 µg was injected just one week after rupture, the CNV area regressed by 62.4%, due at least in part to apoptosis of vascular endothelial cells in the CNV lesions. In comparison, vehicle-injected eyes demonstrated a 9.6% reduction in CNV area, with no evidence of apoptosis. Daily periocular injections of 50, 250 or 1000 µg each caused reductions of 65-70%, while injections of 10 µg TM601 did not cause a statistically significant reduction in CNV area size. Additionally, results demonstrated that both intraocular and periocular injection in eyes with CNV resulted in selective localization of TM601 to new blood vessels.

“TM601 is a novel anti-angiogenic compound and its distinct mechanism-of-action, as demonstrated in this study, is not only applicable to ophthalmology, but also to oncology indications, many of which are similarly associated with the formation of new blood vessels and the over-expression of annexin A2,” said Robert Radie, President and Chief Executive Officer of TransMolecular. “TransMolecular is utilizing the broad promise of the TM601 platform both for its anti-angiogenic therapeutic properties and as a tumor-targeting agent, able to deliver other relevant therapeutic payloads directly to tumors, due to its potent binding activity.”

About TM601

TM601 is a novel, wholly synthetic peptide found to have robust anti-angiogenic activity in neovascular diseases, including cancer and ophthalmic disease. Most recently, the effects of TM601 on the neovasculature were validated in animal models of ophthalmic disease, including wet age-related macular degeneration (AMD).

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.

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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