

NIEHS SBIR Phase IIb

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As with all federal agencies with annual extramural budgets over \$100M, NIH is required to set-aside funds for Small Business Innovative Research (SBIR) grants. NIEHS achieves its mission, to discover how the environment affects people in order to promote healthier lives, through a multidisciplinary biomedical research program, prevention and intervention efforts, and a communication strategy that encompasses training, education, technology transfer and community outreach. These efforts, including the development and evaluation of testing methods for toxicity screening that can reduce the need for animals in toxicology testing, are supported by the SBIR and Small Business Technology Transfer (STTR) program at NIEHS.

NIEHS issued a three-year RFA, NIEHS SBIR Phase IIB Awards for Validation and Commercialization of Approaches to Reduce Animal Use in Toxicology Testing (U44, <https://grants.nih.gov/grants/guide/rfa-files/RFA-ES-15-016.html>), to support the formal validation of alternative test methods to reduce the number of animals used in *in vivo* toxicology screening and testing requirements set forth by US federal government agencies. This is a cooperative agreement mechanism that involves the formation of a Steering Committee consisting of staff from federal agencies and the grantees to develop and implement the final validation plan for the proposed alternative test method. MatTek Corporation received a U44 award through this RFA to further develop and validate an *in vitro* human bronchial tissue model for predicting toxicity of inhaled chemicals.

NIEHS has also just issued an RFA supporting the development of organotypic culture models (OCM, <https://grants.nih.gov/grants/guide/rfa-files/RFA-ES-17-008.html>) from experimental animals typically used for chemical toxicity screening. Successful development of OCM from experimental animals will allow comparisons between results from existing *in vivo* toxicology studies and results from the new animal cell-derived OCM, strengthening the confidence in the predictivity of these *in vitro* systems.