Market Need
The Astrocyte elevated gene-1 (AEG-1) has been extensively documented to associate with tumor pathogenesis and has been identified as a potential marker for a multitude of cancers. Overexpression of AEG-1 has been shown in tumors afflicting a myriad of organs and is indicative of very aggressive cancers. Of cancers, AEG-1 is expressed in 90% of all hepatocarcinomas. While human HCC cell lines expressing AEG-1 exist, they are only effective to study the mediation of gene and protein expression in vitro. Currently, there is no means for studying AEG-1 expression and its effects in vivo.

Technology Summary
VCU researchers have developed a transgenic mouse selectively expressing the human AEG-1 oncogene in the liver. Upon induction, AEG-1 expression is shown to induce significant tumor formation in the liver. In a comparison study, all seventeen AEG-1 expressing mice exhibited numerous tumors of increased size, while only two of eleven wild type (WT) mice showed very small nodules. Therefore, researchers are able to selectively express human AEG-1 in a manner similar to the aggressive phenotypes exhibited in human patients. This new line of transgenic mice provides a novel model for studying the effects of AEG-1 expression in vivo as well as study the effects of new therapies designed to treat hepatocarcinomas.

Technology Status
This technology is available for licensing to industry for further development and commercialization.