



### Applications

- A potential alternative to chemotherapy
- Research tool to further study of MET-associated signaling pathways and mechanisms

### Benefits

- High efficacy *in vitro*
- Demonstrated specificity for MET

### VARI IP-00025

**Patent Status:** Issued  
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For more information,  
please contact:

**Tom DeKoning**  
Director, Business  
Development

[tom.dekoning@vai.org](mailto:tom.dekoning@vai.org)  
616-234-5520

### MET siRNA Viral Vectors

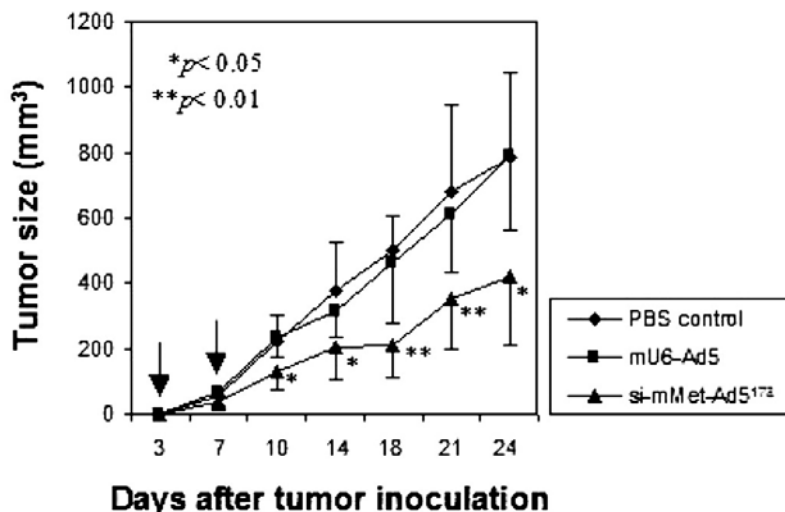
MET siRNA inhibits cancer cell growth, invasion and tumorigenicity.

### Background

MET is involved in proliferation, invasion and metastasis in a broad range of tumor types. Increased expression of MET also is associated with increased angiogenesis (the formation of new blood vessels) that supplies tumors with nutrients. As such, MET has become an important target for anti-cancer therapeutics. While MET inhibitors do show reasonable efficacy in some tumor types, treatment of certain MET-expressing cancers, such as gastric cancer, remain challenging.

### Technology

Van Andel Research Institute (VARI) scientists have developed adenoviral vectors carrying siRNA constructs targeting the MET protein tyrosine kinase (Ad Met small-interfering RNA) and infected different types of cancer cells to suppress the hepatocyte growth factor/scatter factor (HGF/SF)-MET signaling pathway. Scientists found Ad Met siRNA infection induced apoptosis in human sarcoma, glioblastoma, prostate cancer and gastric cancer cells. It also was shown intratumoral infection with Ad Met siRNA resulted in a substantial reduction in tumor growth. Thus, Ad Met siRNA adenoviruses are reliable tools for studying MET function and may be useful in cancer therapy.



**Figure 1:** Effect of MET siRNA on *in vivo* tumor growth. Three and seven days after tumor inoculation in mice, Ad Met siRNA (si-mMet-Ad5178), control (mU6-Ad5), or 0.1 mL PBS was injected into the tumors (arrows), and effect of the treatment was observed. Tumor size was followed and recorded for 24 days.

VARI PI: **George Vande Woude, Ph.D.**

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