

## **InvenioIP - Technology Details**

**Institution:** University of Maryland, Baltimore

**Docket:** KK-99-005

**Title:** A Novel Inhibitor of Airway Mucin Secretion

**Summary:** Airway mucus hypersecretion is a serious, often fatal symptom manifested in various pulmonary diseases such as chronic bronchitis, asthma, cystic fibrosis and bronchiectasis. Currently, no drug is available to control the hypersecretion of mucus. Using an established primary cell culture, UMB researchers have discovered an inhibitor that can suppress airway mucus secretion without any apparent cytotoxicity.

**Applications:** • Therapeutic for various pulmonary diseases associated with mucus hypersecretion.  
• Facilitation of airway drug delivery by controlling mucus secretion.

**Advantages:** • Minimum toxicity expected for the following reasons:  
• Delivery by inhalation limits drug penetration to the airway.  
• Positive charges limit the mucosal transport of the compound.  
• The compound will be broken down into individual, non-toxic amino acids.  
• Any possible overdose easily reversed by proteolytic degradation.

**State of Development:** The inhibitory effect, as well as toxicity studies, have been confirmed using primary airway epithelial cell cultures.

**R and D Required:** Clinical studies.

**Licensing Potential:** UMB seeks to develop and commercialize via an exclusive or non-exclusive license agreement and/or sponsored research with a company active in the area.

**Patent Status:** U.S. patent serial number 6,245,320 B1 'Inhibition of Mucin Release from Airway Goblet Cells by Polycationic Peptides' issued June 12, 2001. U.S. patent application 09/858,542 filed May 17, 2001.

**Related Publications:** 'Relationship between polymer size and activity,' Lee CJ, Paik SH, Ko KH, Kim KC, Inflamm Res. 2002 Oct;51(10):490-4.

'Inhibition of mucin release from airway goblet cells by polycationic peptides,' Ko KH, Lee CJ, Shin CY, Jo M, Kim KC. Am J Physiol. 1999 Oct;277(4 Pt 1):L811-5.

**Technology Inventors:** Kwan Kim

**Contact Info:** Technology Licensing Officer  
[evip@umaryland.edu](mailto:evip@umaryland.edu)  
620 West Lexington St.  
Baltimore, MD, 21201  
410-706-1187

