

Covell, WG Rice, E Appella. Synthesis and biological properties of novel pyridinioalkanoyl thioesters (PATE) as anti-HIV-1 agents that target the viral nucleocapsid protein zinc fingers. *J Med Chem.* 1999 Jan 14;42(1):67-86.

*Patent Status:* U.S. Patent Application No. 10/485,165 filed 28 Jan 2004, claiming priority to 03 Aug 2001 (HHS Reference No. E-329-2000/0-US-06).

*Licensing Status:* Available for non-exclusive or exclusive licensing.

*Licensing Contact:* Sally H. Hu, Ph.D., M.B.A.; 301/435-5605; [hus@mail.nih.gov](mailto:hus@mail.nih.gov).

#### Novel Thioesters and Uses Thereof

*Description of Technology:* The human immunodeficiency virus (HIV) is the causative agent of acquired immunodeficiency syndrome (AIDS). Drug-resistance is a critical factor contributing to the gradual loss of clinical benefit to treatments for HIV infection. Accordingly, combination therapies have further evolved to address the mutating resistance of HIV. However, there has been great concern regarding the apparent growing resistance of HIV strains to current therapies.

The present invention provides for a novel family of thioesters and uses thereof. These thioesters are capable of inactivating viruses by a variety of mechanisms, particularly by complexing with metal ion-complexing zinc fingers. The invention further provides for methods for inactivating a virus, such as the human immunodeficiency virus (HIV), using these compounds, and thereby also inhibiting transmission of the virus.

*Inventors:* James A. Turpin (NCI), Yongsheng Song (NCI), John K. Inman (NIAID), Mingjun Huang (NCI), Anders Wallqvist (NCI), David G. Covell (NCI), William G. Rice (NCI), Ettore Appella (NCI), *et al.*

*Patent Status:* U.S. Patent No. 6,706,729 issued 16 Mar 2004 (HHS Reference No. E-136-1998/0-US-10); U.S. Patent Application No. 10/738,062 filed 16 Dec 2003 (HHS Reference No. E-136-1998/0-US-11).

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Dated: August 25, 2006.

#### Steven M. Ferguson,

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## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Government-Owned Inventions; Availability for Licensing

**AGENCY:** National Institutes of Health, Public Health Service, HHS.

**ACTION:** Notice.

**SUMMARY:** The inventions listed below are owned by an agency of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

**ADDRESSES:** Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852-3804; telephone: 301/496-7057; fax: 301/402-0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

#### A Novel Small Protein Antibiotic

*Description of Technology:* Due to the increase in drug resistance among bacteria, continued progress in the development of new antibiotic treatments is needed. Available for licensing and commercial development is the small protein SrgT, its analogs and related peptides. SrgT is a 43 amino acid protein that effectively inhibits bacterial growth. This protein likely exerts its antibiotic action by inhibiting the metabolism of glucose in these microorganisms. The claimed invention includes methods for SrgT synthesis and suggested modifications for production of SrgT analogs and related peptides, which may remain effective against potential SrgT resistant bacteria. Thus, the current technology provides a novel approach to the treatment and prevention of bacterial infections.

*Application:* Novel therapeutics and prophylactics for bacterial infections.

*Development Status:* Preclinical data is available at this time.

*Inventors:* Carin K. Vanderpool and Susan Gottesman (NCI).

*Selected Publication:* CK Vanderpool, S Gottesman. Involvement of a novel transcriptional activator and small RNA in post-transcriptional regulation of the

glucose phosphoenolpyruvate phosphotransferase system. *Mol Microbiol.* 2004 Nov; 54(4):1076-1089.

*Patent Status:* U.S. Provisional Application No. 60/799,830 filed 11 May 2006 (HHS Reference No. E-166-2006/0-US-01).

*Licensing Status:* Available for non-exclusive and exclusive licensing.

*Licensing Contact:* Cristina Thalhammer-Reyero, Ph.D., M.B.A.; 301/435-4507; [thalhamc@mail.nih.gov](mailto:thalhamc@mail.nih.gov).

#### Methods and Compositions for the Production of Highly Effective Vaccines Against Cancers and Infections Diseases

*Description of Technology:* Because cancers and infectious diseases remain prominent causes of death among adults and children worldwide, the availability of vaccines targeting these conditions is a global health priority. With the current vaccine development state-of-the-art, there are limitless combinations of enhancing molecules that can be used with antigen vaccines targeting these diseases. The technology offered for licensing and commercial development combines effective aspects of antigen-vaccines, including peptides and other forms of vaccination, with enhancing molecules, including co-stimulation of T cell immunity for efficient vaccine development.

The claimed invention includes a non-viral polynucleotide vector encoding immune enhancing molecules, such as the T cell co-stimulatory molecule B7.1 (CD80), which significantly enhance cellular immune responses when combined with antigen stimulation. Delivery of this co-stimulatory molecule as non-replicating DNA with any antigenic form, peptides in this case, overcomes the problems of combining enhancing molecules with the antigen in the same DNA vector, co-infecting or transfecting these molecules in the same antigen presenting or tumor cell, or manufacturing enhancing molecules in the same format as the antigens. Furthermore, the use of this chimeric vaccine with the enhancing molecule expressed as polynucleotide vector overcomes the low antigenicity and safety considerations of viral vectors, as well as the instability and conformational maintenance challenges associated with the use of full-length protein delivery. Furthermore, polynucleotide's constructs encoding enhancing molecules are inexpensive to produce and can potentially be used along with any form of antigen vaccine delivery system, including peptides, full-length proteins and naked DNA antigens.

*Applications:* (1) Significant enhancement of immunological responses to antigen vaccines; (2) Development of safe and effective vaccines for cancer and various infectious diseases; (3) Cost effective vaccine to test the combination of immune enhancing molecules with any form of antigen vaccine.

*Development Status:* Preclinical data is available at this time.

*Inventors:* Samir Khleif and Jay Berzofsky (NCI).

*Patent Status:* U.S. Patent Application No. 09/810,310 filed 14 Mar 2001 (HHS Reference No. E-128-2000/0-US-02).

*Licensing Status:* Available for non-exclusive or exclusive licensing.

*Licensing Contact:* Cristina Thalhammer-Reyero, Ph.D., M.B.A.; 301/435-4507; [thalamc@mail.nih.gov](mailto:thalamc@mail.nih.gov).

*Collaborative Research Opportunity:* The National Cancer Institute Vaccine Branch is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize methods and compositions for the production of highly effective vaccines. Please contact Betty Tong, Ph.D., at 301-594-4263 or [tongb@mail.nih.gov](mailto:tongb@mail.nih.gov) for more information.

Dated: August 25, 2006.

**Steven M. Ferguson,**

*Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.*

[FR Doc. 06-7329 Filed 8-30-06; 8:45 am]

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### The Mucus Slurper: A Novel Device to Keep the Endotracheal Tube (ETT) Free of all Mucus, Without Suctioning.

*Description of Technology:* Available for licensing and commercial development is a mucus slurping device to remove all mucus, before mucus reaches the tip of the endotracheal tube (ETT); thus, no mucus ever enters the ETT, and the ETT remains always clean—without suctioning. A Mallinckrodt Hi-Lo® CASS (continuous aspiration of subglottic secretions) endotracheal tube is modified by appending to the distal-most tip of a cut-off CASS tube a molded, hollow, concentric plastic ring with 3-4 (or more) small (less than 1 mm in diameter) suction ports, the latter positioned in the most dependent part of the ETT (Figure 1). The CASS line was extended to the very tip of the ETT, and suction was activated for approximately 0.5 s, synchronized to the early part of expiration; and repeated once a minute, or as desired. All mucus was collected in a small in-line vial. Healthy, anesthetized and paralyzed sheep, were intubated with a modified 8 mm CASS ETT tube with attached "Mucus Slurper"; with sheep lying prone, trachea/neck oriented below horizontal. Never suctioned. At the end of the 72 h study, sheep were electively euthanized, and autopsied.

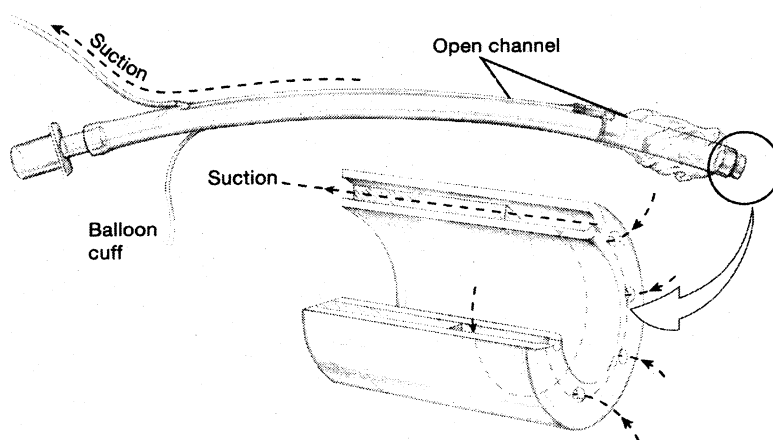


Figure 1. Normal arterial blood gases. No traces of mucus were found along the entire length of the ETT. There were no gross abnormalities of the tracheal mucosa; Bacterial cultures of the 5 lobes of the lungs were negative. The Mucus Slurper represents a new concept that

may significantly contribute to improved care of patients intubated and mechanically ventilated; with no need for suctioning/cleaning, and free of ventilator associated pneumonia.

*Applications:* (1) Prevention of ventilator associated pneumonia; (2) Intubation; (3) Mucus clearance.

*Market:* All patients intubated for longer than 18 hours.

*Development Status:* Pre-clinical data available from sheep.

*Inventors:* Theodor Kolobow, Gianluigi Li Bassi, Francesco Curto (NHLBI).

*Publications:*