

varium; (3) a purified nucleic acid molecule that comprises a sequence which encodes an amino acid sequence homologous to Scytovirin; (4) a vector comprising the isolated and purified nucleic acid molecule and a host cell or organism comprising the vector; (5) a conjugate comprising the peptide and an effector component; and (6) a method of inhibiting prophylactically and therapeutically a viral infection. Thus, this invention may represent potential new therapeutics for treatment of retroviral infections, including AIDS. This invention is further described in Bokesch *et al.*, "A Potent Anti-HIV Protein from the Cultured Cyanobacteria *Scytonema varium*," *Biochemistry*, 2003, 42, 2578–2584.

Benzoylalkylindolepyridinium Compounds and Pharmaceutical Compositions Comprising Such Compounds

William G. Rice, Mingjun Huang, Robert W. Buckheit, Jr., David G. Covell, Grzegorz Czerwinski, Christopher Michejda, and Vadim Makarov (NCI).
DHHS Reference No. E–278–98/1 filed 18 Dec 2000 (PCT/US01/48311).

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The present invention provides novel antiviral compounds active against HIV. These compounds, referred to as benzoylalkylindolepyridinium compounds (BAIPs) are effective against HIV isolates that have developed mutations rendering conventional drugs ineffective. BAIPs apparently do not require intracellular phosphorylation nor bind to the reverse transcriptase (RT) active site, which distinguishes their mechanism of action from the dideoxynucleoside (ddN) and acyclic nucleoside phosphonate (ANP) nucleoside analog drugs. ddN and ANP have proven clinically effective against limited human immunodeficiency virus (HIV) infection, but resistance rapidly emerges due to mutations in and around the RT active site. The BAIPs also may be distinguished from non-nucleoside reverse transcriptase inhibitors (NNRTIs), in part because the BAIPs bind to a different site on the RT enzyme. The usage of NNRTIs is limited by the rapid emergence of resistant strains also. Moreover, unlike the NNRTIs, BAIPs of the present invention have been shown to be effective against HIV-1, HIV-2 and simian immunodeficiency virus (SIV) proliferation. Thus, BAIPs are broadly antiviral, non-nucleoside reverse transcriptase inhibitors (BANNRTIs).

Spontaneous Breathing Apparatus and Method

Theodor Kolobow (NHLBI).
Serial No. 08/933,003 filed 18 Sep 1997;
PCT/US98/19714 filed 18 Sep 1998;
Serial No. 09/555,229 filed 26 May 2000.

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A novel assisted breathing system and method that greatly decreases/eliminates the work of breathing and is under the total control of the patient.

The system includes a minitracheostomy tube, a reverse thrust gas insufflation catheter introduced through a special minitracheostomy tube to deliver well humidified air/oxygen to near the carina, and a threshold valve to limit airway plateau pressure. Inspiration is effected through spontaneous closing of the glottic opening, while expiration follows opening of the glottis. The patient can control the rate of respiration and tidal volumes. Lung inflation is therefore passive and accounts for the nominal work of breathing. Speech, sound, and coughing ability remains unimpeded.

Ultrasound-Hall Effect Imaging System And Method

Han Wen (NHLBI).
Serial No. 60/021,204 filed 03 Jul 1996;
PCT/US97/11272 filed 02 Jul 1997;
Serial No. 09/202,459 filed 14 Dec 1998; and related foreign patent applications.

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The invention provides for a novel ultrasound-based imaging modality that is based on the interaction of a static magnetic field and conductive moieties in the imaged sample under electrical excitation. The invention also provides a novel ultrasound-based imaging modality that provides a contrast mechanism which reflects the conductivity distribution of the medium being imaged. The disclosed methods and system have the following advantages over other ultrasonic imaging systems: (a) The method is not limited to contrast based solely on acoustic properties; (b) it dispenses with acoustic beam excitation and is suitable for fast 2D and 3D image formation with wide angle signal reception. A working prototype system has been constructed and demonstrated 3D imaging. Results are published in peer reviewed journals: H. Wen, *Ultrason. Imaging* 2000 Apr;22(2):123–136; H. Wen, *Ultrason. Imaging* 1999 Jul;21(3):186–200; H. Wen *et al.*, *Ultrason. Imaging* 1998

Jul;20(3):206–220; H. Wen *et al.*, *IEEE TransBiomed. Eng.* 1998 Jan;45(1):119–124.

Dated: April 8, 2003.

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[FR Doc. 03–9285 Filed 4–15–03; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, Public Health Service, DHHS.

ACTION: Notice.

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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.

Mutant A. nidulans Strains Requiring Anticancer or Antifungal Compounds for Growth

Katherine Jung *et al.* (NCI)
DHHS Reference No. E–312–2002/0
(Biological Materials)

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This technology describes four genetically modified strains of *Aspergillus nidulans* that bear mutations in the gene encoding γ -tubulin, a protein required for initiation of microtubule formation and mitosis. As a result of the mutations, these strains require the presence of an antimicrotubule agent as either an absolute or conditional requirement for growth, making the strains useful for