Human Respiratory Disease Model Developed from Titi Monkey Adenovirus

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ABSTRACT

Researchers at the University of California, Davis have cultured a titi monkey adenovirus (TMAdV,) and used the virus to develop a model of human respiratory disease.

FULL DESCRIPTION

Adenoviruses cause a variety of severe diseases in both humans and other primates. A joint research effort between the University of California, Davis and UCSF used a pan-viral microarray to identify the TMAdV adenovirus as the source of a pneumonia outbreak in titi monkeys. The team also determined that the virus could be transmitted to humans. The research further confirmed detailed characteristics of the virus.

The methods used to detect and characterize the virus are potentially applicable to the detection or mitigation of the transmissible spread of such viruses among humans or other primates. As an example, the virus was cultivated successfully in a human, lung adenocarcinoma, cell line. Such techniques can spur ongoing efforts to explore the potential of using adenovirus vectors to develop vaccines and gene therapies.

APPLICATIONS

- Improved detection techniques for zoonotic viruses that can be transmitted to humans
- Potential development of human and other primate therapeutics and vaccines

FEATURES/BENEFITS

- Techniques can be used for epidemiological screening, clinical diagnostics, and outbreak investigation

RELATED MATERIALS

- Yu G, Yagi S, Carrion R Jr, et al. Experimental cross-species infection of common marmosets by titi monkey adenovirus. PLoS One 2013; 8(7) e68558. doi: 10.1371/journal.pone.006558. - 07/24/2013
- Chen EC, Yagi S, Kelly KR, et al. Cross-Species Transmission of a Novel Adenovirus Associated with a Fulminant Pneumonia Outbreak in a New World Monkey Colony. Nemerow GR, ed. PLoS Pathogens. 2011;7(7):e1002155. doi:10.1371/journal.ppat.1002155. - 07/14/2011

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,221,218	03/05/2019	2011-441

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OTHER INFORMATION

KEYWORDS

adenovirus, AAV's, cell-line cultivation, gene therapies, human diseases, microarray techniques, primate diseases, therapeutics, vaccines

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Animal Science
- **Biotechnology**
  - Health
- **Medical**
  - Diagnostics

United States Of America	Issued Patent	9,267,112	02/23/2016	2011-441	

- Disease: Infectious Diseases
- Disease: Respiratory and Pulmonary System
- Gene Therapy
- Research Tools
- Therapeutics
- Vaccines

- **Research Tools**
  - Animal Models
  - Cell Lines
  - Screening Assays
  - Vectors
- **Veterinary**
  - Diagnostics
  - Therapeutics
  - Vaccines

RELATED CASES

2011-441-0

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