

**Non-Confidential Description - PSU No. 1694**  
**“Artificial System for the Production of Infectious Human Papillomavirus”**

**Keywords:**

Vaccines, therapy, papillomavirus, cancer, HPV, infections, virus, viral, infectious

**Links:**

[Inventor website](#)

[U.S. Patent #5,994,115](#)

[Related Publication](#)

**Inventors:**

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**Background**

To date, over 75 types of Human Papillomaviruses (HPV) have been defined and are implicated in the etiologies of a wide range of benign and malignant tumors in the skin and mucosa, including cervical cancer. To develop better diagnostic and therapeutic strategies against HPVs, an artificial system for producing infectious HPV viral particles is essential for studying the replication and infection events of the viral life cycle.

**Invention Description**

The present invention describes the methods and the reagents that encompass the only artificial tissue system currently available for producing and propagating replication-competent, authentic infectious HPV viral particles. The organotypic tissue culture system accurately mimics the in-vivo cellular environment and architecture and is ideal for investigating HPV replication and infection. It enables production and manipulation of infectious virus for use in the development of diagnostic assays and therapeutics. Mutant or chimeric and/or attenuated viruses, which are particularly useful for the development of vaccines, can also be studied in this system. Finally, it provides an ideal model system for screening and testing potential drug candidates for efficacy as anti-viral agents.

**Advantages/Applications**

- The only in vitro artificial tissue system available for producing and propagating replication-competent, authentic infectious HPV viral particles
- Mimics actual cellular environment and architecture for a wide range of basic research studies
- System allows studies of both wild-type and mutant viruses
- System is adaptable to accommodate the screening of multiple classes of compounds as potential anti-viral agents
- Efficient and valuable research tool for screening and identifying early “hits” in drug discovery

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