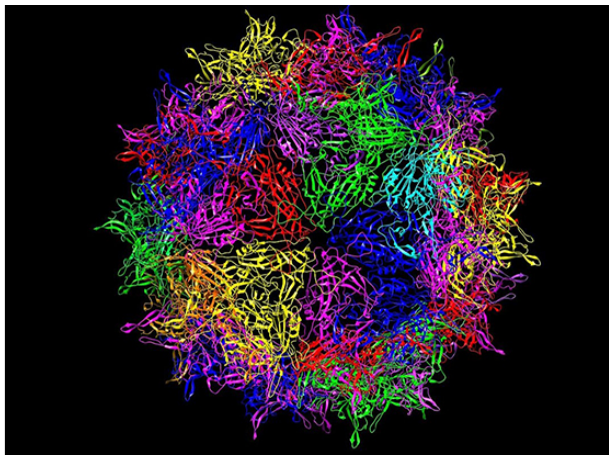


Parvovirus Methods and Compositions for Killing Neoplastic Cells”

ID# 2003-2817



PennState



AAV2 ribbon diagram

TECHNOLOGY READINESS LEVEL

4-7

Seeking

Investment | Licensing | Research

Keywords

- oncolytic viruses
- apoptosis
- gene therapy
- adeno-associated virus (AAV)
- cancer therapy

Researchers

Craig Meyers

Distinguished Professor, Department of Microbiology and Immunology

[Online Bio Website](#)

Samina Alam

Research Associate, Department of Cellular and Molecular Physiology

[Website](#)

Originating College

College of Medicine

Office of Technology Management Contact

Smith, Matthew
mds126@psu.edu
814-863-1122

Technology Summary

The limited ability of anti-neoplastic therapy to distinguish neoplastic from normal cells continues to be a primary hurdle in the treatment and irradiation of neoplastic, tumor or other cancerous cells. Adeno-associated virus (AAV)-based vectors have been shown to be nonpathogenic vectors with potential for cancer gene therapy. AAV is ubiquitous, non-pathogenic, anogenital virus with tumor suppressive properties, including against the development of cervical cancer. The subject invention covers a type of AAV which selectively mediates apoptosis as a mode of oncosuppression in HPV-infected cell lines. Normal, non-cancerous cells infected with the invention did not undergo apoptosis and displayed no cytopathic effects.

Application & Market Utility

The research results show that the invention can induce cell death of cervical cancer cells at all stages of carcinogenic progression: preneoplastic cervical intraepithelial neoplasia I up to cervical invasive carcinoma cells. Experimental results including Western blot analysis, Southern blot analysis, Hirt DNA extraction and DNA fragmentation analysis provided confirmation regarding these apoptosis conclusions.

Next Steps

Dr. Meyers have worked to advance his discovery into clinical trials, which are protected by US Patent Nos. 8,080,240 and 8,980,247.



Invent Penn State is a Commonwealth-wide initiative to spur economic development, job creation, and student career success. Invent Penn State blends entrepreneurship-focused academic programs, business startup training and incubation, funding for commercialization, and university-community collaborations to facilitate the challenging process of turning research discoveries into valuable products and services that can benefit Pennsylvanians and humankind. Learn more at invent.psu.edu.

Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to all qualified applicants without regard to race, color, religion, age, sex, sexual orientation, gender identity, national origin, disability or protected veteran status.