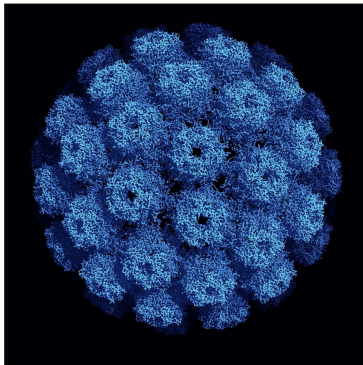


Potent Inhibition of Opportunistic Viruses

ID# 2016-4468



PennState



Opportunistic Viruses

Technology Summary

In immunocompromised and transplant patients, infections with opportunistic viruses such as human cytomegalovirus (HCMV) and polyomaviruses are typically symptomatic and are associated with increased morbidity and mortality. The inventors have developed a trafficking inhibitor, Retro94, that targets a host protein and greatly reduces the replication of HCMV while showing moderate effectiveness against polyomaviruses. Building on that finding, the inventors have created a panel of more efficient, less toxic analogs for this inhibitor and have shown that these analogs maintain high efficacy against HCMV while substantially lowering the concentration required to inhibit polyomavirus replication. By targeting a host protein, these compounds are able to inhibit the replication of two very different viruses.

Application & Market Utility

There are few current therapeutics to treat opportunistic viruses, and those that are available are limited by toxicity, intravenous infusion, and development of resistance by the virus. This leaves a significant demand for new therapies to address this unmet need, particularly in prophylactic treatment. The compounds identified by the inventors open up the possibility of pan-viral inhibitors for immunosuppressed individuals that are effective against multiple, diverse opportunistic viruses.

Next Steps

Compound synthesis; culture validation; mouse studies investigating bioavailability and efficacy against viral infections.

TECHNOLOGY READINESS LEVEL

1-3

Seeking

Investment | Licensing |

Keywords

- Human cytomegalovirus (HCMV)
- Herpesvirus
- Polyomavirus
- Opportunistic Virus

Researchers

Nicholas J Buchkovich
Assistant Professor
[Online Bio](#)

Linda M Cruz
Postdoctoral Fellow

Dhimant H Desai
Associate Professor
[Website](#)

Other Researchers

Shantu Amin Aron Lukacher Saumya Maru

Originating College

College of Medicine

Office of Technology Management Contact

Douglas Gisewhite
drg206@psu.edu
814.865.6961



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.