

## Identifying Anti-Cytomegalovirus Inhibitors Faster, Easier, and Cheaper

Current methods to determine the efficacy of anti-viral drugs for the treatment and prevention of Human Cytomegalovirus (HCMV) negatively impact on the discovery of new drugs—they are expensive, slow and labor intensive. Complicating the development of new drugs is the “dry pipelines” and reduced R&D budgets of major pharmaceutical companies—yet demand for new anti-viral agents grows as resistance to older drugs continues to develop. Companies are looking for low-cost and reliable methods to identify potential new drug candidates.

### The technology

With the development of a novel assay, a luciferase tagged anti-viral assay, researchers at Virginia Commonwealth University are now able to measure the inhibition of viral replication in human fibroblasts. This new assay provides a more efficient and effective means of screening for and identifying promising new drugs for the treatment of HCMV. The technology reduces drug development costs by detecting potential toxicity levels and antagonistic interactions between compounds.

*In vitro* studies performed validating the assay testing the combination therapy of hydroxyurea and ganciclovir resulted in 30% greater inhibition than if the two drugs were used independently.

### Benefits

- » Increased sensitivity – enables same day results
- » Enhanced drug discovery – broader range of compounds can be tested
- » Improves chances for successful and accurate compound selection
- » Identifies synergistic interactions – more potent drugs and novel combinations
- » Increased compound screening capabilities and reduced costs

### Applications

- » Robust screening assay to aid in the discovery of new anti-viral drugs
- » Low-cost evaluation of the efficacy of anti-viral drug combinations
- » Early detection of potential toxicity levels and antagonistic interactions

#### Patent status:

N/A

#### License status:

This technology is available for licensing to industry for further development and commercialization.

#### Category:

Research Tools

#### VCU Tech #:

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#### Investigators:

[Michael McVoy, Ph. D.](#)

#### Contact us about this technology

Magdalena K. Morgan, Ph.D.  
Director of Licensing  
[mkmorgan@vcu.edu](mailto:mkmorgan@vcu.edu)  
(804) 827-6095