"IDENTIFYING ANTI-CYTOMEGALOVIRUS INHIBITORS FASTER, EASIER AND LESS COSTLY" VCU# 12-030

Applications

- Robust screening assay to aid in the discovery of new anti-viral drugs
- High throughput screening for new compounds
- Low-cost evaluation of the efficacy of anti-viral drug combinations
- Reduction in time and labor needed to screen potential drug candidates
- Early detection of potential toxicity levels and antagonistic interactions

Advantages

- Increased sensitivity—enables same day results
- Enhances 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
- Reduced development costs compounds
- Increased compound screening capabilities and reduced costs

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Market Need

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.

Technology Summary

With the development of a novel assay, a *luciferase* tagged anti-viral assay, VCU researchers 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.

Technology Status

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

Patent Status – US Patent pending

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