Potent Inhibition of Opportunistic Viruses

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Intellectual Property:

Pending Applications:
- U.S. 16/318,725 (Notice of Allowance)

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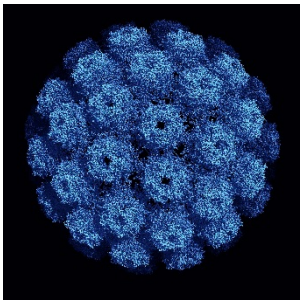

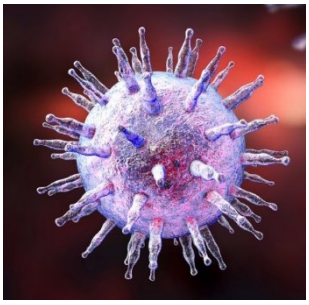

Clinical Need:

Opportunistic viruses including the Cytomegalovirus (CMV), BK virus and JC virus are the most frequent opportunistic pathogens in immunocompromised and transplant patients. In these patients, viral infections are typically symptomatic and are associated with increased morbidity and mortality. Current treatment options are limited and are linked to serious adverse events leaving a significant demand for new therapies to meet an unmet need, particularly in prophylactic treatment.

Value Proposition:

To reduce the complications of opportunistic viruses in immunocompromised and transplant recipients through use of a proprietary drug for anti-viral therapy that acts on the host cell to inhibit viral replication.

Technology Solution:

Current therapeutics to treat opportunistic viruses are limited by toxicity, intravenous infusion and development of resistance by the virus. Penn State researchers in the College of Medicine have identified a compound that potently inhibits herpesviruses and, based upon this parent compound, subsequently developed a panel of more efficient, less toxic derivatives. By operating against a host cell process, rather than directly targeting the virus, these inhibitors have been shown to inhibit the cell culture replication of CMV, BK and JC viruses. Currently the BK and JC polyomaviruses have no FDA approved drug treatments.

Market Opportunity:

The global market for antiviral prevention and treatment of CMV is estimated to reach $2 billion dollars by 2026. Those sales are forecasted to be realized by only three anticipated vaccines and six treatment options. Given the safety issues with currently approved CMV therapeutics and the lack of new pipeline drugs, the FDA has issued guidance for industry which calls for the urgent development of new therapeutic agents that are effective and less toxic. Accordingly, a new antiviral drug that meets the safety and efficacy criteria across multiple opportunistic virus may be eligible for FDA Orphan Drug Status.

Path Forward:

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