Using state of the art and established *in vitro* models, ImQuest BioSciences rapidly identifies therapeutic and prevention products with the potential to inhibit the replication of infectious organisms using the ViroSENS, MicroSENS, and PrevSENS platforms. Our work begins with basic drug discovery screening programs and then follows a well-defined developmental pathway, guided by documents such as the FDA Points to Consider in the Preclinical Development of Antiviral Drugs for the Treatment of HIV Infection. The major elements of antiviral therapeutic development include the following:

- Efficacy and toxicity in established and fresh human cells
- Range of Action:
  - Efficacy and toxicity evaluation in a variety of phenotypically distinct human cell types
  - Efficacy versus wild-type and drug-resistant isolates
  - Cell to cell transmission evaluation
  - Efficacy in chronic and latent infections
  - Virucidal activity evaluation
  - Efficacy versus a range of infectious viruses
- Cell-based and molecular/biochemical mechanism of action evaluations
- Combination therapy with FDA-approved inhibitors
- Drug resistant virus selection and characterization
- *In vitro* toxicity evaluations
- Development of optimized formulation and delivery strategies
- Topical microbicide assays for inhibitors of sexually transmitted viruses and bacteria

### Human Immunodeficiency Viruses
- Hundreds of clinical and laboratory HIV-1 strains representative of Group M and O
- Drug-resistant and multi-drug resistant HIV-1 isolates
- Clinical and laboratory HIV-2 strains

### Herpes Viruses
- Herpes Simplex virus type 1 and 2
- Human Cytomegalovirus
- Varicella Zoster virus
- Epstein Barr virus

### Hepatitis and Flaviviruses
- Hepatitis B virus
- Surrogate Hepatitis C virus – Bovine Viral Diarrhea virus (BVDV)
- Dengue virus subtypes 1-4
- Yellow fever virus

### Enteric Viruses
- Enteroviruses
- Echoviruses
- Coxsackie viruses
- Poliovirus
- Rotavirus

### Respiratory Viruses
- Numerous wild-type and drug-resistant Influenza virus strains (A&B)
- Human Parainfluenza viruses
- Respiratory Syncytial viruses
- Human Rhinoviruses
- Measles Virus
- Human Adenoviruses