

Research

Translational Anti-Enteroviral Research

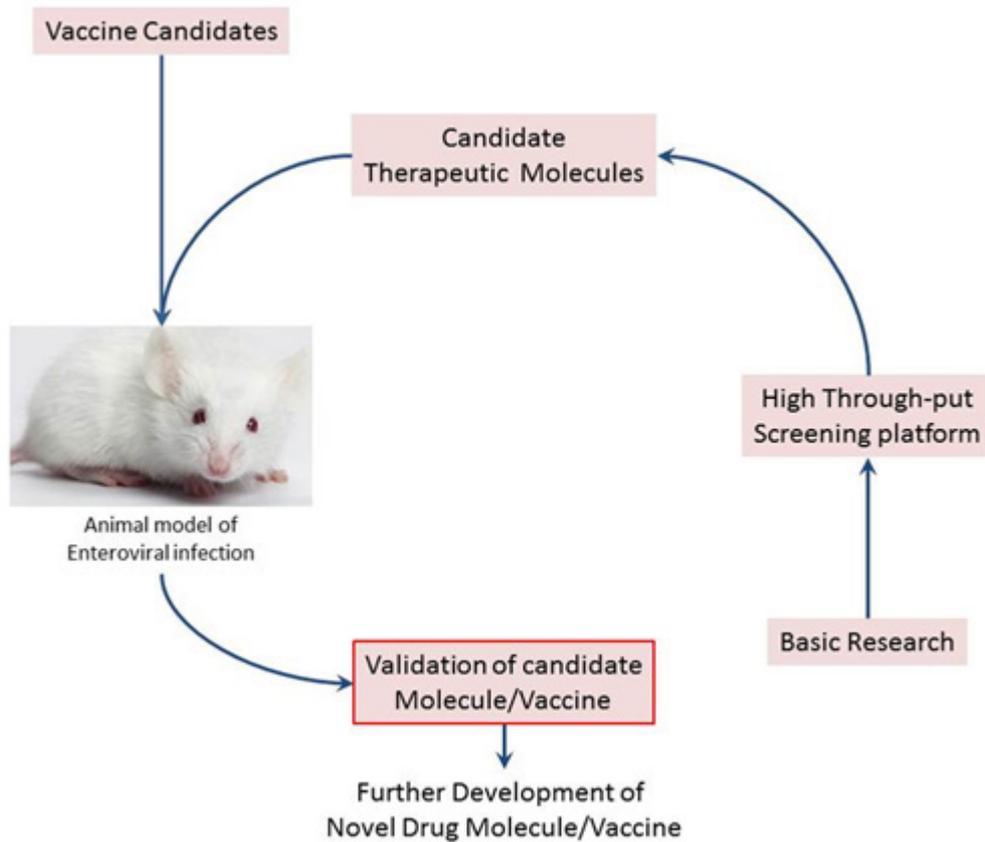
Hand, foot and mouth disease (HFMD) is generally a mild disease characterized by a low-grade fever accompanied by skin lesion on the limbs and mouth in young children. However, it can also result in complications leading to fatality. A plethora of viruses from the genus Enterovirus have been associated with HFMD to date. Major outbreaks have been occurring throughout the region in cycles of two to three years intervals in recent years, each outbreak being characterized by slightly different serotypes of viruses, with the most common being human enterovirus 71 (EV-71) and coxsackievirus A16 (CVA16). Although most HFMD cases are mild, the increasing frequency and severity of recent outbreaks, with a number of them reaching epidemic levels, the disease is emerging as a major public health concern in the region, including Singapore.

Despite the associated health risks and threat of HFMD to public health, there is no vaccine or therapeutic regime available. This is compounded by the limited research progress in understanding enteroviruses in the last 20 years after the eradication of poliomyelitis in most countries. Hence, the objective of the laboratory is to develop novel and effective anti-viral strategies against HFMD-causing enteroviruses while at the same time understanding the biology of this diverse group of viruses to fuel translational anti-enteroviral research.

High throughput antiviral screens and animal model of infection for human enteroviruses

The laboratory has established highly versatile cell-based high throughput screens for human enteroviruses and specializes in the evaluation of therapeutic molecules or vaccine candidates in established murine model of enteroviral infection. We seek collaborations in the following areas:

- **Evaluation of antiviral strategies (antiviral molecules, vaccine candidates, molecular genomics and nanotechnology) against HFMD.**
- **Validation of antiviral or vaccine candidates in our established enteroviral animal model.**
- **Development of novel diagnostics approaches for human enteroviruses.**



Our industry research collaboration partners include Z Group Global Pte. Ltd and ESCO Aster.

In addition to research collaborations, our laboratory offers **laboratory evaluation of virucidal/disinfectant materials** and has worked with established companies by evaluating candidate prototypes against different viruses. Virucide/disinfectant evaluation service is available against a wide range of viruses available in our virus repository.