

Hilleman Labs announces publication of original research on Heat Stable Rotavirus Vaccines

**Back-to-back publications offer further insights into developing affordable
Rotavirus vaccine**

Hilleman Laboratories today announced the publication of original research as well as expert commentary on development of Heat Stable Rotavirus Vaccine (HSRV). In two peer-reviewed papers published in *Human Vaccines & Immunotherapeutics*, Hilleman Laboratories scientists describe rational design of heat stable Rotavirus vaccine formulations, as well as Rotavirus vaccine efficacy, its status and areas for improvement.

In the first publication, Hilleman scientists explain how new vaccine formulations were developed in a series of compositions, differing in buffering agents, bulking agents, cryoprotectants, amino acids and divalent cations. The goal of this original research was to screen for the ability of the formulations to provide vaccine stability when stored under elevated temperatures for extended periods, an attribute critical to low-income country settings. Stability profiles of optimized formulations showed their ability to retain the potency of Rotavirus vaccine for greater than 36 months at 5°C, 20 months at 37°C, and 7 months at 45°C. The HSRV formulations developed at Hilleman Labs have great potential to be used as vaccine candidates for improving access in low-income countries. The heat-stabilization technology can be applied to other vaccines antigens which may benefit from increased stability at high temperatures.

In the second publication, also in *Human Vaccines & Immunotherapeutics*, Hilleman scientists explain the difference noted in Rotavirus vaccine efficiency between high and low-income countries that lack in universal access to clean water and higher standards of hygiene. The research paper highlights that improving our understanding of mucosal immunity, response to Rotavirus infection and its modulation by metabolic networks could point at actionable pathways to improve vaccination efficacy. The research further dwells on the importance of mucosal adjuvants and vaccine expression, and how storage and delivery systems could have a positive impact in the outcome of Rotavirus vaccination.

Finally, at the 13th Annual Rotavirus Symposium held recently in Minsk, Belarus, Hilleman scientists presented the latest clinical trials result on HSRV administered in a single container/closure delivery device. Clinical trial results demonstrate that HSRV is safe and immunogenic compared to benchmark vaccine, when given to infants in a 3-dose regimen. In



addition, user acceptability studies demonstrate a high degree of acceptance of vaccine delivery device by healthcare practitioners. Together, these results support further development of HSRV for use in routine immunization to protect against Rotavirus diarrhea.

ABOUT HILLEMANN LABORATORIES

Hilleman Laboratories is a first-of-its-kind joint-venture partnership formed between MSD a global research-driven pharmaceutical organization and Wellcome Trust, a global charitable foundation dedicated to human and animal health by supporting the brightest minds. Hilleman Laboratories has been named after renowned scientist and father of modern vaccines Dr. Maurice Hilleman. His dedication to making a difference through the practical application of vaccine research and delivering vaccines to people in need forms the core mission of Hilleman Laboratories.

Hilleman Laboratories aims to become a global voice for vaccine development and access for public health in the developing world.