

1107-92-97

Brent E Korba* (korbabe@georgetown.edu), Georgetown University Medical Center, 5600 Reservoir Road, NW, Med-Dent. Building, Room SW319, Washington, DC 20057. *Human Noroviruses Contain Multiple and Diverse Antiviral Targets.*

Noroviruses (NoV) are the leading cause of nonbacterial, acute gastroenteritis worldwide and pose a significant financial burden on healthcare systems. In the USA, noroviruses are responsible for more than 50% of all cases of food-borne illness, over 20 million infections, and 70,000 hospitalizations annually. The NoV replication cycle presents a number of potentially accessible antiviral targets. The viral polymerase (RdRp) contains at least 2 sites for binding of allosteric inhibitors. The nucleoside analogue 2'C-methylcytidine has been shown to be an effective inhibitor of human NoV replication in cell culture and murine norovirus (MNV) in infected animals. NoV chymotrypsin-like cysteine protease has been shown to be inhibited by a divergent series of molecules. The viral protein covalently linked to the 5'-end of the NoV genome (VPg) is required for both the initiation of translation as well as priming for RNA replication, which opens up the potential for different intervention targets. A number of enzymatic and cell culture-based assays are available to evaluate potential inhibitors. Antiviral development for NoV infections is in its infancy in the pharmaceutical field which provides an especially significant opportunity currently for the development of therapeutic agents. (Received January 05, 2015)