

Molecular Characteristics and Control of Norovirus

GwangPyo Ko^{1,2}, Young-Bin Park¹, and Hee-Tae Lee¹

¹*Department of Environmental Health, School of Public Health, Seoul National University*

²*Institute of Microbiology, Division of Life Sciences, Seoul National University*

Recently, the research on the norovirus (NoV) has been receiving great attention due to the importance of public health. NoV is highly infectious, resistant to various environmental stresses and has low infectious dose. However, NoV has been greatly understudied worldwide due to inability to cultivate in conventional cell culture techniques. Prompt diagnosis and control of NoV are great challenge to public health. We recently developed antibody based sensitive detection methods for NoV using various types of monoclonal and polyclonal antibodies. Combined with DNA barcode methods, these antibody detection methods can potentially detect as sensitive as molecular method such as RT-PCR. In addition to diagnostic techniques, we developed the assay systems for evaluating various antiviral agents against NoV. These evaluation systems of antiviral agents include both murine norovirus and NoV replicon harboring cells. Our preliminary study suggests that a number of chemicals have potentials for reducing viral infection and diseases.

Keywords: norovirus, acute gastroenteritis, diagnostic technique, foodborne diseases, DNA barcode, control, prevention