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Project Title: Establishment the environmental analysis methods and risk factors of enteric-viruses

Project Number:DOH96-DC-2013

Executing Institute:Center for Research and Diagnostics

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P.I. Institute: Center for Disease Control

Abstract:

The causes of gastroenteritis include bacteria, parasites, viruses et al. In the industrial countries, viruses became to be the major causes of these diseases. In the Europe and the United States, about 60% to 80% gastroenteritis cases have been estimated to be caused by viruses. The clinical symptoms of these children are vomiting, heavily watery diarrhea (more than 10 times each day), dehydration, seizure. And few of these cases will dead because of dehydration, especially in the third countries. The transmission routes are by eaten contaminated water or food and closely contact.

Noroviruses cannot propagate by cell culture methods. Still, the golden standard of noroviruses detection is electronic microscope. For the purposes of rapid detection of outbreaks, there were some commercial EIA kits and in house RT-PCR. In our laboratory, we designed primer sets and probe, which sensitivity can reach $10^5\sim 10^6$ PFU /mL. We also established the methods to collect and concentrate the noroviruses contaminated environmental specimens. We will use this method as a standard in outbreak.

Keyword: Norovirus, Acute gastroenteritis, outbreak, Real-time RT-PCR, phylogentic analysis