Anti-Norovirus Effect of ν G7-Treated Water

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Norovirus, which causes acute gastroenteritis, has been feared recently as a type of virus that becomes rampant during winter.
It is transmitted by touching feces or vomit of contracted individuals or transmitted orally via dust from their dry feces or vomit. Its outbreak is observed around the globe at for example hospitals, schools, and nursing facilities, and countermeasures have been implemented.
In December 2006, a vG7 user informed a WELLNESS distributor of the effect of vG7-treated water on norovirus infection. This led WELLNESS to request Dr. Hitoshi Watarai to conduct research on this effect. The study confirmed that vG7-treated water had an anti-norovirus effect.
Note that, since no techniques have been found to grow human norovirus in a lab, feline calicivirus from the norovirus genus of the family Caliciviridae is commonly used as a substitute to study the infectability.

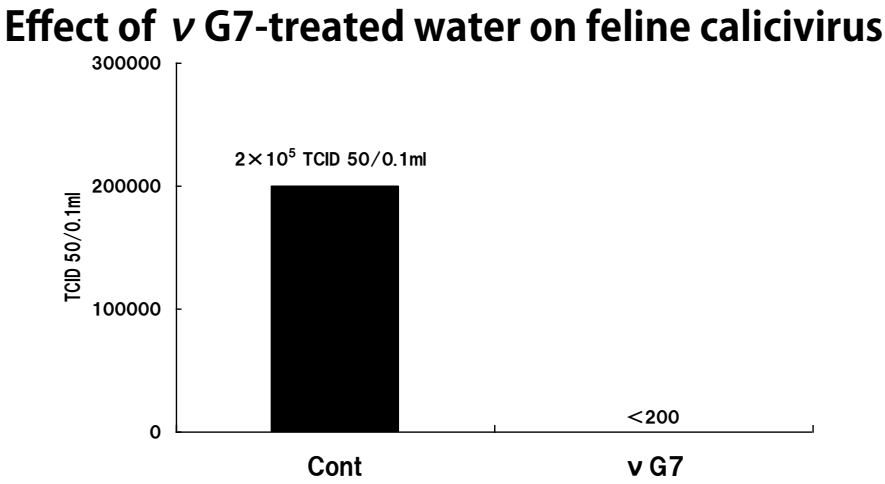
< Method >

Hitoshi Watarai, Ph.D in veterinary science
1-1 Gakuen-cho, Naka-ku, Sakai, Osaka 599-8531, Japan
Veterinary Immunology, Graduate School of Life and Environmental Sciences, Osaka Prefectural University
Phone/Fax: 072-254-9492

Feline calicivirus was used to examine the antiviral effect of vG7-treated water. To obtain the infectious titer using the median tissue culture infectious dose (TCID50), limiting dilution was conducted to Crandell Rees feline kidney (CRFK) cells. To a 500μl sample of 100-times diluted liquid containing norovirus ("virus liquid"), 500μl of sterilized distilled water ("Cont") and vG7-treated sterilized distilled water were added, respectively. Ten-fold serial dilution was then conducted to these obtained solutions in a cell culture media.
To the CRFK cells incubated in a 96-well plate beforehand, 0.1ml of the virus liquid was added to each well.
The plate was then incubated at 37°C for four days. After the incubation period ended, the cytopathic effect (CPE) was observed under a microscope. The reciprocal number of the end-point dilution producing TCID50 was obtained as the virus titer.

< Result >

To confirm the antiviral activity of vG7-treated water against feline calicivirus, vG7-treated water and untreated water was used to compare the TCID50 of feline calicivirus. The TCID50 of the virus liquid decreased when vG7-treated water was added. The resulting value was 200 or lower. When untreated sterilized distilled water ("Cont") was added, on the other hand, the virus titer was 2×105 TCID50.
This shows that vG7-treated water had an inactivation effect on feline calicivirus.



< Comment >

As reported by vG7-treated water users, the experiment produced the expected result. This result seems to explain some cases in which users experienced quick improvement in their norovirus symptoms by drinking vG7-treated water when the virus went rampant last winter.

< Prevention of norovirus infection >

Since norovirus is transmitted orally, it is necessary to not only wash the hands thoroughly but also follow proper kitchen hygiene and correctly dispose of feces and vomit of contracted individuals. vG7-treated water can help hospitals prevent hospital infection if it is used frequently, used as drinking water, and used to aerate inside the facility with an ultrasound humidifier. In a house, of course, switching from tap water to vG7-treated water and keeping it sprayed from a humidifier are easy and effective ways to protect yourself from being infected by viruses such as norovirus.