Stunning Anti-Viral Properties of Grape Seed Extract
Byron J. Richards, CCN – November 13, 2012

New research* shows that grape seed extract damages the coating on viruses, thereby preventing it from adhering to cells and infecting them. This is a general anti-viral property of significance.

The discovery was made by researchers looking for ways to stop norovirus that causes over half the food-born illnesses in the United States each year. Even low dose exposure to grape seed extract deformed a variety of viruses, rendering them too damaged to infect.

I find this study particularly interesting as I have recommended grape seed extract to small children and infants for many years. I began doing this because capsules are easy to pull apart and mix in food, as they taste like dried grapes. My reasoning was that grape seed extract would help as an antioxidant and help protect tissues, since it attaches to collagen and strengthens it. I assumed this would be good nourishment to help children combat bugs. I was rather surprised how effective it was at actually knocking out infections, but there was never a study on this topic. Now we see that grape seed extract is a potent disrupter of viral infection – a rather amazing finding.

* See study article below

http://www.wellnessresources.com/health/articles/stunning_anti-viral_properties_of_grape_seed_extract/

Grape Seed Extract's Anti-Viral Activity

Study Title:
Effect of Grape Seed Extract on Human Norovirus GII.4 and Murine Norovirus 1 in Viral Suspensions, on Stainless Steel Discs, and in Lettuce Wash Water.

Study Abstract:
The anti-norovirus (anti-NoV) effect of grape seed extract (GSE) was examined by plaque assay for murine norovirus 1 (MNV-1), cell-binding reverse transcription-PCR for human NoV GII.4, and saliva-binding enzyme-linked immunosorbent assay for human NoV GII.4 P particles, with or without the presence of interfering substances (dried milk and lettuce extract). GSE at 0.2 and 2 mg/ml was shown to reduce the infectivity of MNV-1 (>3-log PFU/ml) and the specific binding ability of NoV GII.4 to Caco-2 cells (>1-log genomic copies/ml), as well as of its P particles to salivary human histo-blood group antigen receptors (optical density at 450 nm of >0.8). These effects were decreased as increasing concentrations of dried milk (0.02 and 0.2%) or lettuce extract were added. Under an electron microscope, human NoV GII.4 virus-like particles showed inflation and deformation after treatment with GSE. Under conditions that simulated applications in the food industry, the anti-NoV effect of GSE using MNV-1 as a target organism was shown to be limited in surface disinfection (<1-log PFU/ml, analyzed in accordance with EN 13697:2001). However, a 1.5- to 2-log PFU/ml reduction in MNV-1 infectivity was noted when 2 mg of GSE/ml was used to sanitize water in the washing bath of fresh-cut lettuce, and this occurred regardless of the chemical oxygen demand (0 to 1,500 mg/ml) of the processing water.
From press release:

Norovirus causes more than half of all food-born illnesses in the United States, and is the second greatest source of reported food borne illness outbreaks in the European Union. A recent study found that grape seed extract could reduce the infectivity of Norovirus surrogates (Norovirus surrogates are viruses that share pathological and/or biological features with human norovirus). Now, Dan Li of Ghent University, Ghent, Belgium and collaborators have shown that grape seed extract does so by denaturing the capsid protein, which is the coat of the virus, thereby disabling the virus.

The research is published in the November 2012 issue of Applied and Environmental Microbiology. In the study, the researchers observed that under treatment with grape seed extract, at low doses, the spherically-shaped murine (mouse) norovirus-1 coat proteins clumped, and showed “obvious deformation and inflation,” according to the report. At higher doses, the researchers saw no coat proteins, only protein debris. “This provides evidence that [grape seed extract] could effectively damage the [norovirus] capsid protein, which could reduce viral binding ability and infectivity accordingly,” according to the report.

Norovirus is transmitted mainly fecal-orally, and infected food handlers, contaminated water, and surfaces can be identified as important sources of transmission, “which could further contaminate ready-to-eat foods, drinking water, shellfish, and fresh produce,” says Li. A mere 10-100 virus particles are sufficient to transmit the disease

Study Information:

D. Li, L. Baert, D. Zhang, M. Xia, W. Zhong, E. Van Coillie, X. Jiang, M. Uyttendaele Effect of Grape Seed Extract on Human Norovirus GII.4 and Murine Norovirus 1 in Viral Suspensions, on Stainless Steel Discs, and in Lettuce Wash Water. Applied and Environmental Microbiology 2012 November Laboratory of Food Microbiology and Food Preservation, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium.

http://www.wellnessresources.com/studies/grape_seed_extracts_anti-viral_activity