

## **ColdZyme forms a protective barrier in the throat that deactivates five major common cold viruses**

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### **Background**

Rhinovirus accounts for most cases of common cold, followed by influenza virus, human coronavirus, respiratory syncytial virus (RSV), parainfluenza and adenovirus. A treatment that acts topically on the surface of the oropharynx against viruses, without affecting the host mucosa cells, would be attractive. For this purpose a medical device, primarily containing glycerol and Atlantic cod trypsin, has been developed to form a protective barrier and to degrade protein structures presented on viral surface. In the current in vitro study, the virus deactivating effect of the device was measured by assaying its ability to deactivate five major common cold viruses in suspension, and prevent them from infecting target cells and from inducing a cytopathic effect.

### **Materials & Method**

A virucidal efficacy suspension test was conducted using a commercially available medical device throat spray (ColdZyme®; Enzymatica, Sweden) against 5 viruses in suspension. After inoculation of virus (untreated or pretreated with ColdZyme) onto host cells, plates were incubated and the cultures scored for viral infection by determining viral-induced cytopathic effect.

### **Results**

The product deactivated rhinovirus type 1A by 91.7% (1.08 log<sub>10</sub>), rhinovirus type 42 by 92.8% (1.14 log<sub>10</sub>), human influenza A virus H3N2 by 96.9% (1.51 log<sub>10</sub>), RSV by 99.9% (2.94 log<sub>10</sub>), adenovirus type 2 by 64.5% (0.45 log<sub>10</sub>) and human coronavirus (strain 229E) by 99.9% (2.88 log<sub>10</sub>).

### **Conclusion**

An effective in vitro activity against common cold viruses was demonstrated. Thus, ColdZyme might have a clinical benefit in prevention and treatment of respiratory viral infections by local virus deactivation in oropharynx.