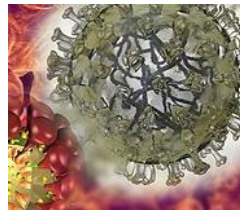




Update on Carragelose®

First Data Show Neutralizing Effect on SARS-CoV-2



July 2020

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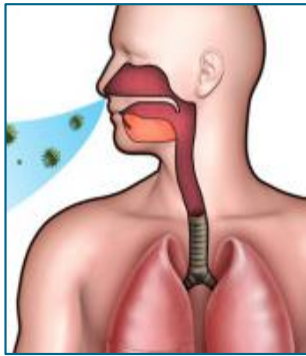
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Mode of Action of Carragelose®

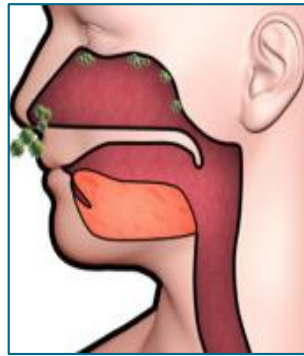


Virus entry

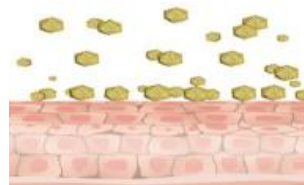


- Colds are caused by >200 different respiratory viruses
- They are spread by aerosols released by infected individuals during e.g. sneezing

Infection and replication



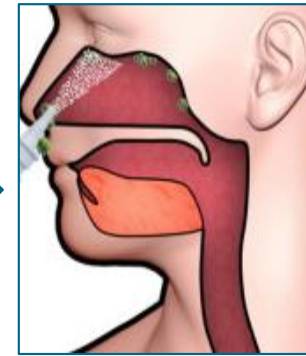
- Cold viruses bind to the mucosal surfaces of the upper respiratory tract, are internalised into cells, and start replicating



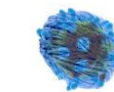
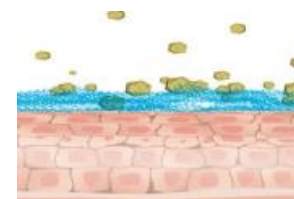
Infectious virus

Carragelose®

Blocking viral attachment

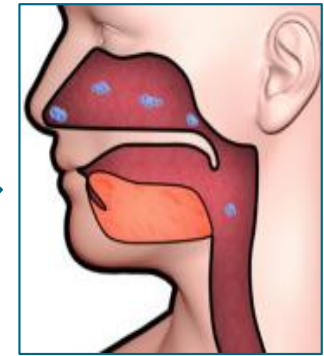


- Carragelose creates a protective viscous layer
- Virus particles become trapped in carrageenan
- Viral spread and proliferation blocked



Non-infectious virus

Viral clearance



- Clotted viruses leave the body via natural route (nasal cilia)
- Cold is either prevented or has a shorter duration

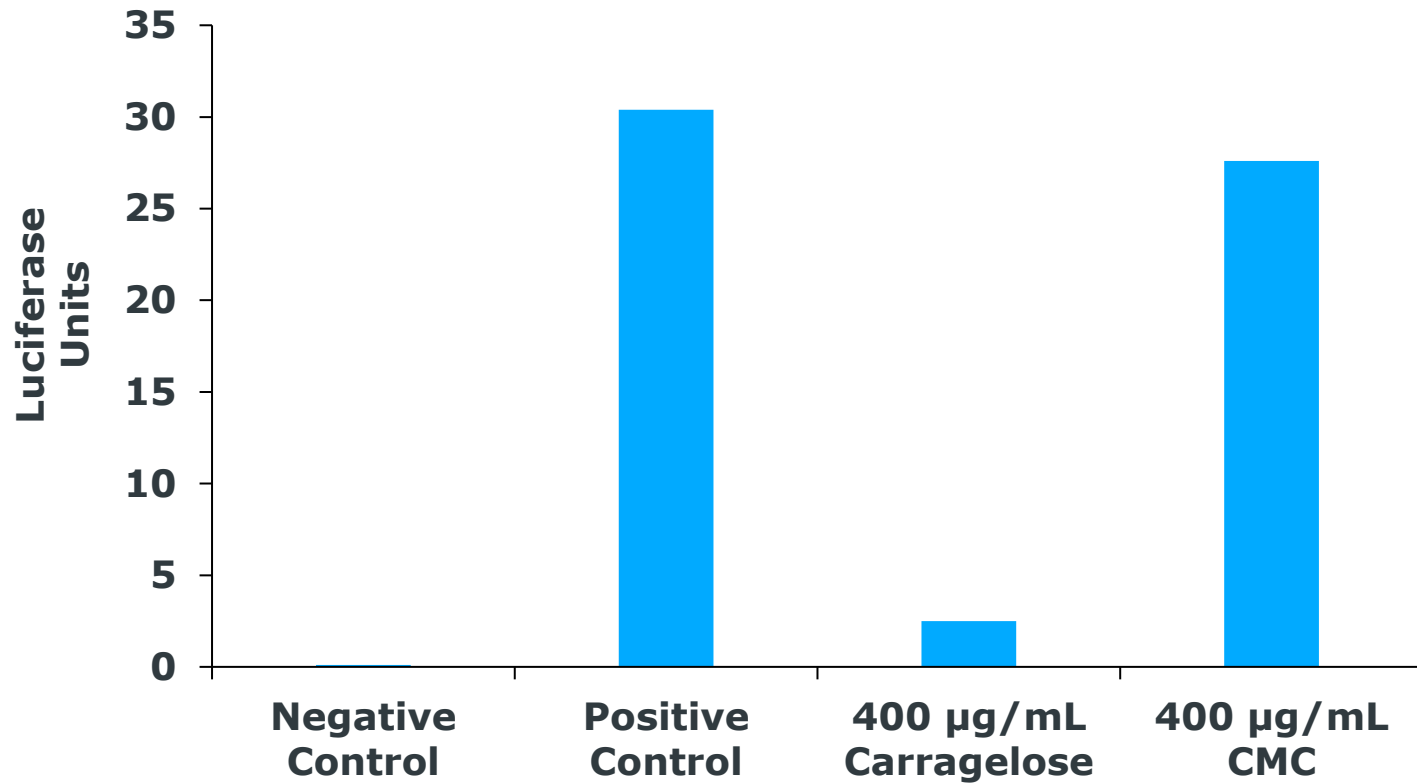
The activity of Carragelose® against SARS-CoV-2 in comparison with other respiratory viruses



Virus Strain	IC₅₀ Carragelose®
SARS-CoV-2	< 5µg/ml
Human Rhinovirs 1a	1-10 µg/ml
Human Rhinovirus 8	1-10 µg/ml
Coxsackie A10	2-20 µg/ml
Respiratory Syncytial Virus	1-10 µg/ml
Human Coronavirus OC43	< 1 µg/ml
Human Parainfluenzavirus	10-20 µg/ml
Adenovirus 50	5-20 µg/ml
H1N1(09)pdm A/HH/01/09	1-10 µg/ml
H1N1 A/PR8/34	10-20 µg/ml
H3N2 A/Aichi/2/68	1-5 µg/ml
H5N1 A/Teal/Germany/Wv632/05	15-50 µg/ml

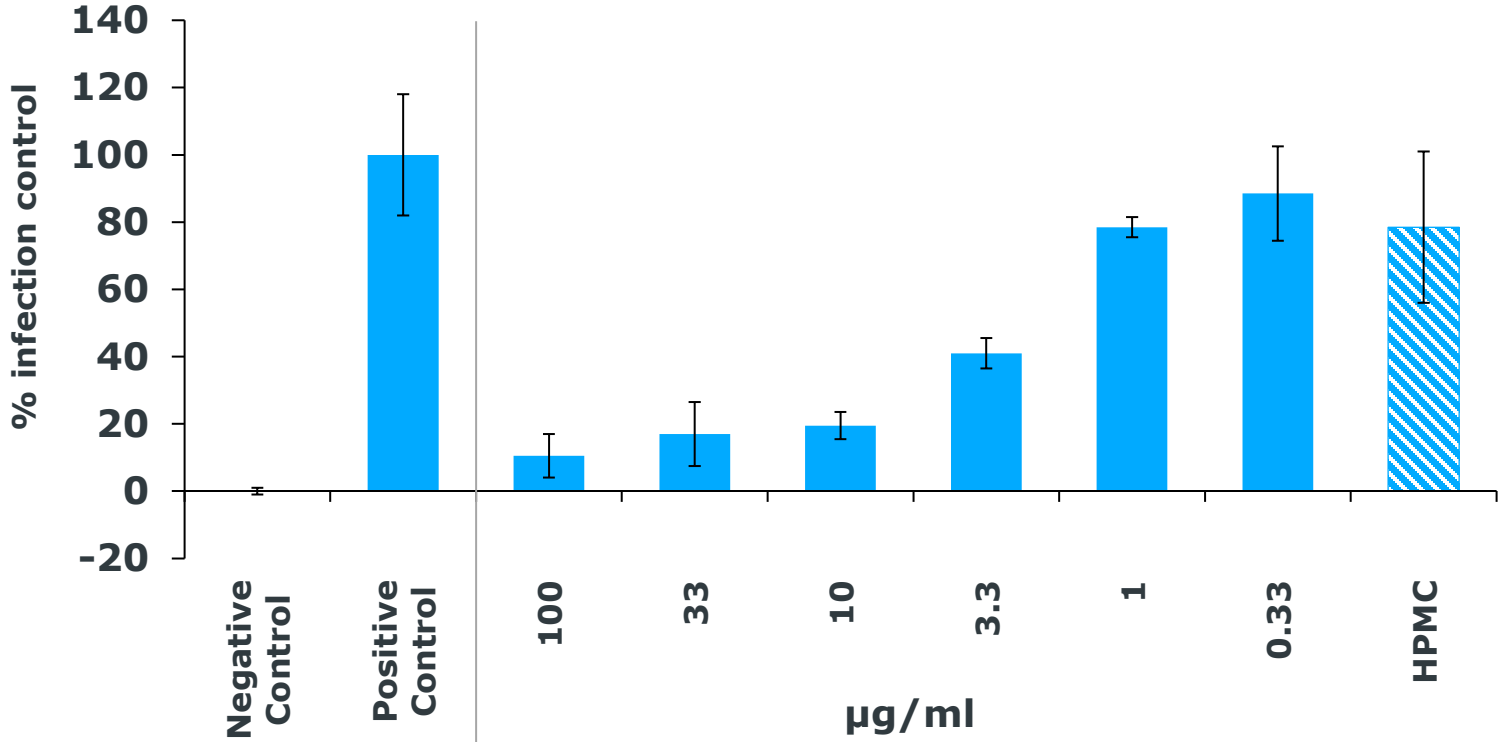
SARS-CoV-2 is similarly sensitive as other already clinically tested respiratory viruses (HRV, Coronavirus)

Virus Neutralization Assay



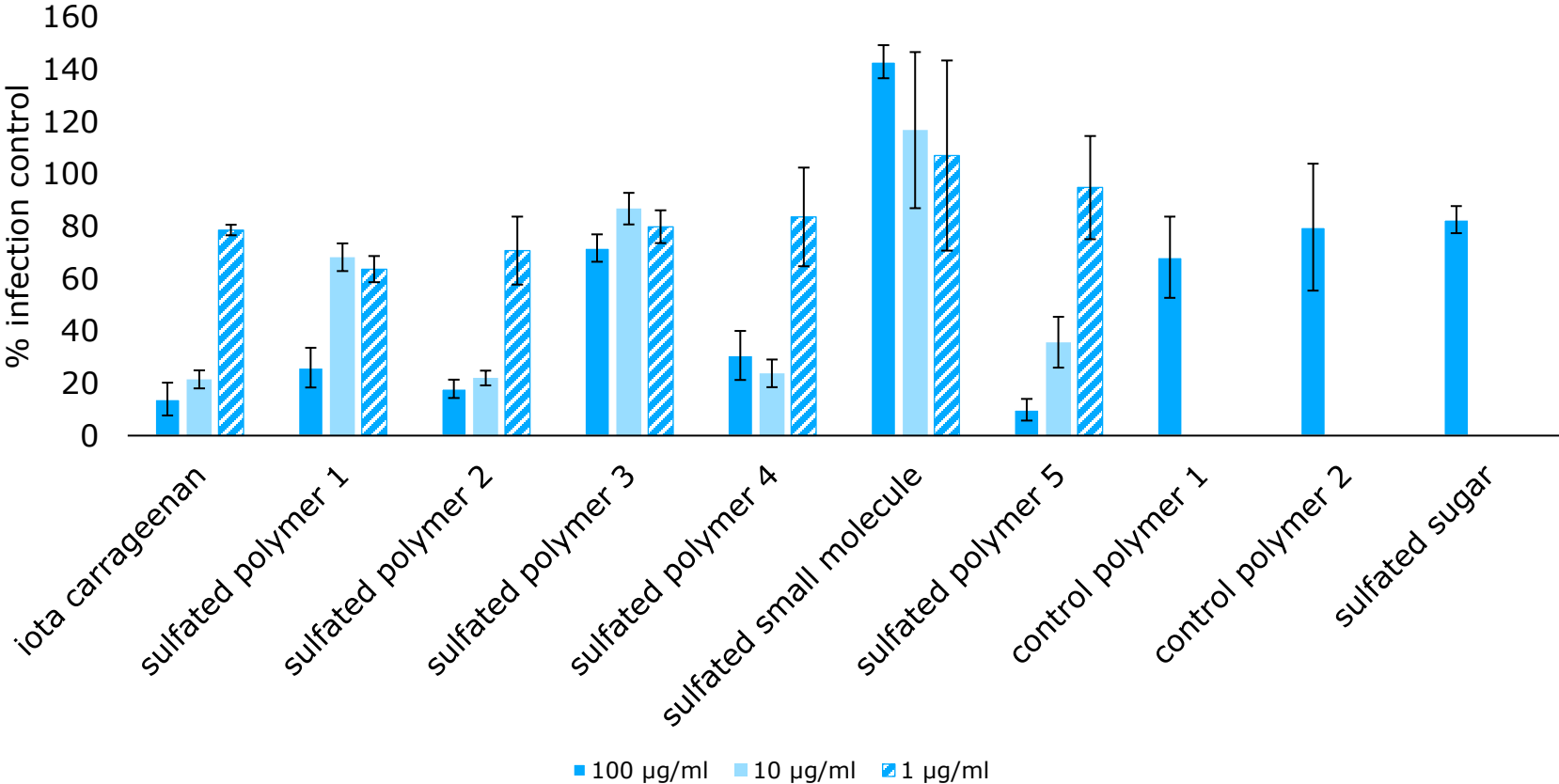
Carragelose is highly active in virus neutralization assay preventing infection of cells compared to controls

Carragelose[®] Dose Dependent Activity Against SARS-COV-2



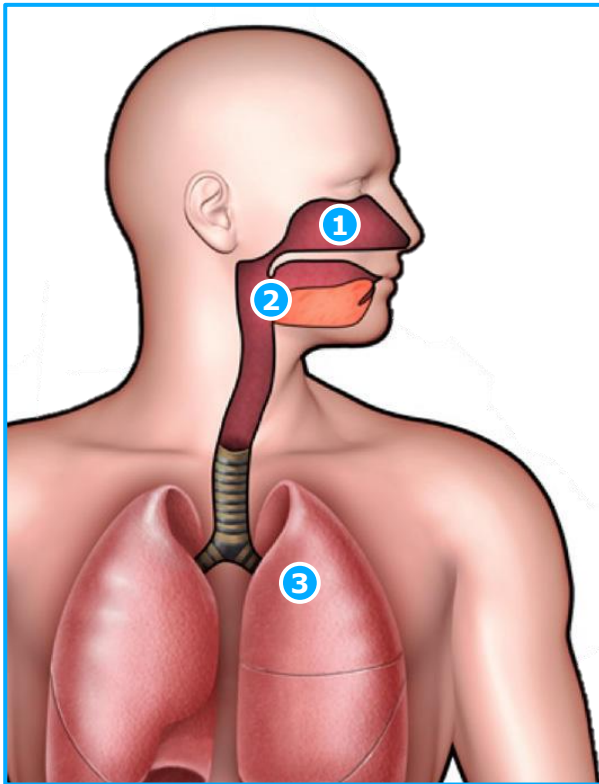
Higher concentrations of Carragelose[®] have better control of infection

Comparison of Different Polymers Against SARS-COV-2



Iota Carrageenan (Carragelose®) yields excellent results already at lower doses and is at the same time safe

Apply Same Technology to Lungs to Succeed in Protecting Entire Respiratory Tract



1 Nasal products

Marketed

2 Throat products

Marketed

3 Lung products

- Planning clinical testing of inhaled solution containing Carragelose against virally-induced pneumonia
- First efficacy results expected within 12 months
- If clinical data are positive, inhalation product with Carragelose could be available in 2021

Conclusion



- In-vitro data underscore protection Carragelose[®] provides against
 - SARS-CoV-2
 - Multitude of respiratory viruses
- Important as we continue to deal with COVID-19 and move into cold and flu season



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