



## **Marinomed Biotech AG announces positive clinical data for Carragelose lozenges against respiratory viruses including SARS-CoV-2**

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Corporate News

Marinomed Biotech AG (VSE:MARI), a globally operating biopharmaceutical company, announced today positive results from its clinical study on the antiviral efficacy of Carragelose-containing lozenges (10 mg iota-carrageenan) in 31 healthy subjects. Results show that lozenges provide an additional formulation complementary to Carragelose-based nasal sprays. Both products are available in pharmacies through Marinomed's worldwide distributor network. The clinical study evaluated the inhibition of common human respiratory viruses, namely human Rhinoviruses (HRV) 1a and 8, Coronavirus OC43, Influenza A nH1N1 2009, and Coxsackie virus A10. Additionally, the efficacy against SARS-CoV-2 and human Parainfluenza Virus Type 3 was tested.

The primary endpoint investigated whether taking one lozenge would lead to a Carragelose concentration in saliva above the concentration required to inhibit 90 % of viral particles (IC90) for HRV-1a and HRV-8. The study showed a mean Carragelose concentration in the test subjects' saliva of 668 µg / ml, surpassing the previously published IC90 values of 5 µg / ml for neutralizing both HRV1a and HRV8 by more than a hundredfold ( $p < 0.001$ ), proving the capacity for effective inactivation with a confidence of >99.9 %.

For the secondary endpoint, the saliva obtained from study participants was tested directly for antiviral efficacy against HRV-1a and HRV-8, Coronavirus OC43, Influenza A nH1N1 2009, and Coxsackie virus A10. This secondary endpoint was reached with statistical significance for all five viruses, as well as for human Parainfluenza Virus Type 3 ( $p < 0.001$  for all six viruses).

Considering the current pandemic, an additional analysis of the antiviral capacity of the saliva against SARS-CoV-2 was performed in collaboration with Prof. Dr. Ulrich Schubert's group at the Friedrich Alexander University of Erlangen-Nuremberg, Germany. After taking a Carragelose lozenge, saliva contained enough Carragelose to surpass the IC90 for SARS-CoV-2 significantly ( $p < 0.001$ ) and was able to directly inhibit SARS-CoV-2 in antiviral efficacy tests.

"We are very encouraged by these positive clinical results. After consumption of Carragelose-containing lozenges, saliva was effective against seven different respiratory virus strains,

including SARS-CoV-2,” said Dr. Eva Prieschl-Grassauer, Chief Scientific Officer at Marinomed. “Recently, positive results from an independent clinical trial were published showing that an iota-carrageenan nasal spray prevented 80 percent of COVID-19 cases among hospital staff. Together with our data on the antiviral efficacy of lozenges, this supports the prophylactic and therapeutic effectiveness of Carragelose products. Using them may help to overcome the ongoing pandemic and represents an additional option for COVID-19 prevention alongside vaccines.”

Marinomed intends to publish the detailed results of the study in a peer-reviewed scientific journal soon. First clinical data from an investigator initiated double blind placebo controlled trial in Argentina were published recently.[i] The results demonstrate significant protection against SARS-CoV-2 infection in healthcare personnel when using an iota-carrageenan nasal spray.[ii] Two additional Phase IV clinical studies with a similar design are currently also investigating the efficacy of Carragelose for the treatment and prevention of infections with SARS-CoV-2 and other respiratory viruses in Austria[iii] and the UK[iv]. The German Society for Hospital Hygiene (Deutsche Gesellschaft für Krankenhaushygiene e. V., DGKH) has recommended the use of Carragelose®-based nasal sprays for the prevention of SARS-CoV-2 infections in the general public.[v]

#### About Carragelose®:

Carragelose® is a sulfated polymer from red seaweed and a unique, broadly active anti-viral compound. It is known as a gentle yet effective and safe prevention and treatment against respiratory infections. Several clinical and preclinical studies have shown that Carragelose® forms a layer on the mucosa wrapping entering viruses, thereby inactivating them, and preventing them from infecting cells. Increasing clinical evidence indicates that Carragelose® is able to also inactivate SARS-CoV-2. Marinomed is holder of the IP rights and has licensed Carragelose® for marketing in Europe, parts of Asia, Canada, and Australia. For a full list of Marinomed’s portfolio of Carragelose® containing nasal sprays and oral products, please visit <https://www.carragelose.com/en/portfolio/launched-products>, for a list of scientific publications on Carragelose®, <https://www.carragelose.com/en/publications>.

#### About Marinomed Biotech AG

Marinomed Biotech AG (Korneuburg, Austria) is a biopharmaceutical company listed on the Prime Market of the Vienna Stock Exchange. The company focuses on the development of innovative products based on two patent-protected technology platforms. The Marinosolv® technology platform increases the efficacy of hardly soluble compounds for the treatment of sensitive tissues such as eyes, nose, lung or gastrointestinal tract. The Carragelose® platform

comprises innovative patent-protected products for the prophylaxis und treatment of respiratory tract viral infections including SARS-CoV-2. Carragelose® is used in nasal sprays, throat sprays and lozenges, which are sold via international partners in over 40 countries worldwide. Marinomed®, Marinosolv® und Carragelose® are registered trademarks of Marinomed AG. These trademarks may be owned or licensed in select locations only. Further information is available at <https://www.marinomed.com/en/technologies-markets/markets>.

## References

- [i] <https://www.marinomed.com/en/news/marinomed-biotech-ag-shares-positive-clinical-trial-results-for-iota-carrageenan-nasal-spray-in-the-prevention-of-covid-19-1>
- [ii] <https://milstein.conicet.gov.ar/la-eficacia-del-spray-nasal-con-carragenina-para-la-prevencion-del-covid-19-ha-dado-resultados-positivos/>
- [iii] <https://www.marinomed.com/en/news/marinomed-biotech-plans-clinical-trial-with-carragelose-nasal-spray-to-investigate-prevention-of-covid-19-infection-in-frontline-healthcare-staff>
- [iv] <https://www.marinomed.com/en/news/marinomed-biotech-ag-announces-clinical-trial-at-swansea-university-medical-school-to-investigate-efficacy-of-carragelose-in-preventing-covid-19-infections>
- [v] <https://dx.doi.org/10.3205/dgkh000373>

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