



Viennese biotech company Marinomed demonstrates the benefits of its patented Marinosolv® technology

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Corporate News

Marinomed Biotech AG (Marinomed) – an established Viennese biopharmaceutical company with a global presence – has published the results of scientific investigations that clearly demonstrate the benefits of its Marinosolv® technology platform. The study, which is available to read now in the European Journal of Pharmaceutics and Biopharmaceutics, shows that the solubility of the immunomodulator tacrolimus is 200 times greater in Marinosolv® than in water. This higher solubility could offer significant advantages for producers of tacrolimus-based medicines as well as patients – advantages which Marinomed is already exploiting with the development of Tacrosolv, its product candidate for the treatment of allergic conjunctivitis and dry eye syndrome.

Marinomed's Chief Executive Officer Dr. Andreas Grassauer commented: "These are important results in terms of demonstrating the effectiveness of our Marinosolv® technology platform. This is the basis of our two product candidates Budesolv and Tacrosolv which we are developing for rapidly growing billion-dollar markets."

Budesolv, a solubilized version of the corticosteroid budesonide developed for the treatment of allergic rhinitis, is already being tested in a pivotal clinical phase III trial, and Tacrosolv is expected to reach the phase II trial stage for the treatment of conjunctivitis in 2019. The next step for Tacrosolv will then be a pivotal phase III trial for allergic conjunctivitis and dry eye syndrome.

The Marinosolv® platform behind both product candidates was developed by Marinomed in 2015. At present, 40% of approved medicines and nearly 90% of therapeutic molecules currently in the research pipelines of pharmaceutical companies are poorly soluble[1]. Marinosolv® makes it possible to improve the water solubility of otherwise hardly soluble compounds – resulting in a lower drug dosage and a faster action. The Marinosolv® platform therefore opens up opportunities for the development of products that offer improved local availability of active ingredients in sensitive parts of the body such as the eyes and nose. The impact on the rest of the body is subsequently lower, meaning side effects could be reduced. Marinosolv® also enables preservative-free products to be manufactured with lower production costs.

The data on solubilized tacrolimus published by Marinomed's research team demonstrates how effectively Marinosolv® can function. In addition to the improved water solubility of the immunomodulator using Marinosolv®, bioavailability was also significantly higher as a result. Different concentrations of tacrolimus were also tested using various forms of administration in the cornea of a model system. In comparison to tacrolimus applications that are already commercially available, the researchers found a 15-fold increase in concentration of the drug

in the cornea when it was dissolved using Marinosolv®. Unlike the currently available products, which are taken orally or by injection, it could be simply administered as eye drops. No local, systemic side effects or histopathological changes were found. An additional finding was that tacrolimus, when dissolved in Marinosolv®, permeated into the posterior part of the eye in higher concentrations than the currently available products administered orally or by injection – a result which points to the suitability of Tacrosolv for the treatment of certain other ocular indications.

Commenting on Marinomed's development objectives for its proprietary platforms, Dr. Grassauer said: "We are planning to capitalize on Marinosolv® to enter the multi-billion-dollar market for the treatment of allergies and eye diseases. All over the world, products from our other platform Carragelose® have already proved successful in treating the causes of colds and flu-like symptoms. We are going to expand both platforms to further strengthen our positions in extremely promising growth markets."

Original publication: Pharmacokinetics of topically applied tacrolimus dissolved in Marinosolv, a novel aqueous eye drop formulation. C. Siegl, M. König-Schuster, S. Nakowitsch, C. Koller, P. Graf, N. Unger-Manhart, Y. Schindlegger, N. Kirchoff, C. Knecht, E. Prieschl-Grassauer, W. Sipos. European Journal of Pharmaceutics and Biopharmaceutics (2018);

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About Marinomed Biotech AG

Headquartered in Vienna, biopharmaceutical company Marinomed Biotech AG focuses on developing innovative products for the airway and eye disease segment using patented technology platforms. The Carragelose® platform encompasses innovative patented products for the treatment of viral respiratory tract infections. Carragelose® is available as nasal and throat sprays and lozenges, which are sold in more than 30 countries around the world in collaboration with international partners. The Marinosolv® technology platform improves the efficacy of poorly soluble drugs specifically for the treatment of sensitive areas of the body such as the eyes and nose. For further information visit www.marinomed.com

[1] source: Acta Pharmaceutica Sinica B, September 2015 issue

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