



Dear reader,

This is the fourth issue of the FucoSan project newsletter. FucoSan is a three-year German-Danish project funded by the Interreg Deutschland-Danmark Programme. This newsletter will be issued six times during the funding period to keep you up-to-date with the latest project news and information.

First version of Fucoidan database introduced



03.12.2018 - The fourth meeting of FucoSan partners was hosted by the Danish Technical University in Copenhagen. Prof. Anne S. Meyer and Maria Dalgaard Mikkelsen from the Institute of Chemical Technology gave an insight into the university's laboratories. The highlight of the meeting was Professor Susanne Alban. The director of the Department of Pharmaceutical Biology at the Kiel University presented the first version of the database. The database will be developed browser-based during the course of the project and, as soon as it is online, will be filled with the data collected by all partners involved in the characteri-

sation of the fucoidans. In the first step, the database will be used purely within the project. At a later stage, concepts to ensure their sustainability will be discussed. Finally, the goal is access for the scientific use of Fucoidans.

Master thesis on characterisation of fucoidanes presented



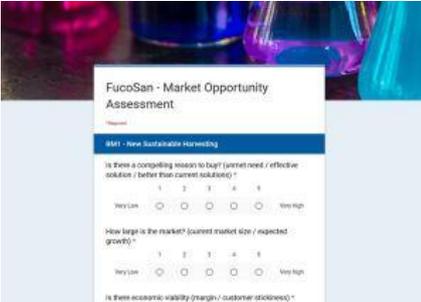
31.01.2019 – Philip Brodersen, M.Sc. Drug Research, has delivered promising results in the characterisation of fucoidans with his master thesis. In his work, he compares two different methods for the purification of extracts. One of them is the established method of Ehrig and Alban (2014) and the other the so-called diafiltration. 'We have collected initial evidence that diafiltration can be a very good alternative. Furthermore, this process is environmentally friendly and cost-effective as it does not require organic solvents,' says Brodersen. Although *Fucus serratus* and *Fucus vesiculosus* showed some significant results in

activity and yield, it became clear that *Fucus evanescens* is the algae species with the best features for characterisation. It achieves particularly satisfactory results in the three relevant categories of purity, yield and biological activity.

Philip Brodersen wrote his master's thesis at the Pharmaceutical Institute of the Christian-Albrechts-University of Kiel, while he completed his practical year as a pharmacist there in 2018. 'The purification results are very useful for our further activities in the FucoSan project,' explains Professor Susanne Alban, Director of the Institute.



What are the greatest market opportunities for FucoSan?



01.03.2019 – At the meeting on 25 and 26 February in Kiel, the partners worked on identifying promising business models. Ferran Giones from the University of Southern Denmark, together with his colleagues from the Institute of Business Administration at Kiel University, is responsible for the sustainability of the FucoSan project. ‘We wanted to know how our experts assess the market opportunities of individual parts of the FucoSan value chain,’ says Giones. Criteria for the evaluation were economic factors such as compelling reason for purchase, economic feasibility, possible obstacles to implementation, time to profitability

and possible risks. The discussion was based on the respective reports of the individual partners on algae collection and cultivation, extraction and characterisation of FucoSanes, the FucoSan database and tests in the fields of ophthalmology, tissue engineering and cosmetics.

Prototype of Fuco-Creme developed



11.03.2019 - A first interim result that can be ‘grasped with hands’ has now been presented by oceanBASIS: For the prototype of a cream, fresh algae material of the type *Fucus vesiculosus* was used. ‘Our prototype has some excellent properties. For example, the cream is easy to spread and absorbs quickly,’ says production manager Susanne Woldmann.

oceanBASIS has specialised in making marine natural substances available for human health. In the FucoSan project, the Kiel-based company is looking for the most efficient extraction method for bioactivities relevant to cosmetics. ‘The cream fits

very well into the oceanBASIS product line. Now we have to test further properties and the stability,’ continues Susanne Woldmann.

Patents for FucoSan? A professional advice



19.03.2019 - Throughout the FucoSan project, new products and processes are being developed. Dr Alexandra Cordeiro Baumgartner of the Patent and Utilization Agency Schleswig-Holstein (PVA SH GmbH) informed the project partners about the possibility of securing these innovations with patents. The granting of a patent is linked to three conditions: The product, device or process must be new and original (i.e. not obvious). Furthermore, an industrial utilisation must be possible. A patent prevents others

from producing, using, and offering for sale, selling or importing the same products in the country in which the patent was granted. For the FucoSan partners, it may be relevant that it is possible to obtain protection even if it is not clearly defined. For example, this kind of protection could be applied for a natural product manufactured under defined conditions.



The PVA SH is the central institution of scientific organisations for the registration of industrial property rights in Schleswig-Holstein. Founded by all universities, technical colleges and the Technology Transfer Centre Schleswig-Holstein, PVA SH offers free services in the field of industrial property protection for all employees of the state's universities and scientific institutes.

FucoSan at the Danish Science Festival



29.04.2019 - On 27 April 2019, our project partner Xavier Fretté presented FucoSan at the Danish Science Festival, the National Research Day. Almost 3,000 visitors came to the University of Southern Denmark in Odense. Xavier explained how Fucoxanthins can be helpful in medicine and cosmetics and how the project partners extract and investigate them. "It was a good opportunity to tell the Danish population about our research activities," said the professor at the Institute of Chemical, Biological and Environmental Technology.

Save the date!

FucoSan - from Science to Innovation Day 2019

26 November 2019, 9:00 bis 18:15 Uhr,

GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel, Standort Ostufer

[Read more](#)

Project Facts

- 8 partner organisations
- 8 network partners
- Duration: Mar 2017 – Aug 2020
- Budget: 3.8 m Euro, thereof 2.2 m Euro funding
- Lead partner: University Medical Centre Schleswig-Holstein, Campus Kiel
- FucoSan is funded by Interreg Deutschland-Danmark with means from the European Regional Development Fund. more: www.interreg5a.eu

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