

ALGAECEUTICALS FOR COSMECEUTICALS & NUTRACEUTICALS

The Official Newsletter of the AlgaeCeuticals Project



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- **Proteolytic enzymes- AUA**
- **16th Panhellenic conference of Hellenic Botanical Society**
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INAB

ΙΝΣΤΙΤΟΥΤΟ ΕΦΑΡΜΟΣΜΕΝΩΝ ΒΙΟΕΠΙΣΤΗΜΩΝ
INSTITUTE OF APPLIED BIOSCIENCES



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PROTEOLYTIC ENZYMES

How they work

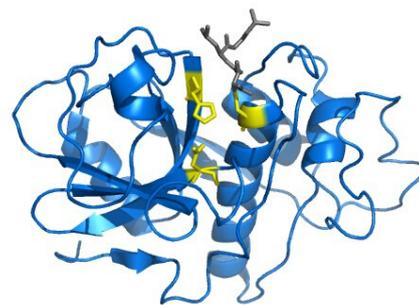
Proteases are enzymes that hydrolyze peptide bonds in proteins, forming smaller protein fragments. These enzymes can be found in different type of organisms and even if they share a common way of action differentiate in size, localization and quaternary structure. Proteases are diversified into five classes-according to their catalytic site- which are cysteine, serine, threonine, aspartic proteases and metalloproteases (Sanman et al., 2014; Verma et al., 2016).

Proteases constitute the largest group of enzymes in biotechnology industry with successful applications in detergents, foods, pharmaceuticals (Sunar et al., 2016; Razzaq et al., 2019). Due to their performance and consumer acceptance, these enzyme are currently being exploited in skin care products (Sunar et al., 2016). They have been used as antiaging, antiwrinkle, peeling, nourishing, moisturizing depilatory, healing, whitening and lightening agents (Sunar et al., 2016; Smith et al., 2007). Our work at the Enzyme Technology Lab in

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the Agricultural University of Athens, focuses on microalgae proteases, and aims at exploiting the algae biodiversity as a source of high value-added enzymes. Algae biodiversity is considered a rather unexplored source of biomolecules and as consequence, it should be also appreciated as a source of enzymes carrying new or novel catalytic activities suitable for the cosmetology. These enzymes will be explored for the production of knowledge-based cosmetic products. In general, algae are considered as efficient and sustainable factories for the production of enzymes and proteins as they display low cost in production, high levels of enzyme expression, lack of toxicity and pathogenicity, easy downstream processing.



FOOD TECHNOLOGY INTERNATIONAL SYMPOSIUM 2019

Murcia, Spain

AlgaeCeuticals project participated in the 9th International Symposium on Food Technology hosted by the Technological Centre for the Food and Canning Industry CTC in Murcia (Spain). The aim of the Symposium was to demonstrate state-of-the-art technology transfer related to food industry with important national and international R&D departments that shared their knowledge and experience with participants and attendees. AlgaeCeuticals presented the progress on new foods enriched with algae and much more!

Outreach activities

Researchers' night, Thessaloniki, September 2019

AlgaeCeuticals project played with children and young adults to explain how we distinguish different algae species, and what is in our algae-based foods and cultures. As algae industry evolves, there is an urgent need to identify algae species that are powerful 'superfoods', and play a significant role in the development of second-generation biofuels and pharmaceuticals. Detective Algae, friend of the famous Detective Plant, explained how she solves her cases with the help of DNA and the use of Bar-HRM technology.



Open days in INAB



16th Panhellenic Scientific Conference Hellenic Botanical Society- Athens, October 2019

AlgaeCeuticals project presented the work on novel nutraceutical and cosmeceutical products based on algae!

We love algae! Until our next newsletter...

Find us:



<https://www.algaecuticals.gr>