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Isolation and characterization of new hydrophobins from marine fungi fed using complex carbohydrates from seaweed

Catalina Landeta Salgado[1,2], María Elena Lienqueo[1,2]

[1] Universidad de Chile, Chile
[2] Centre for Biotechnology and Bioengineering, Chile

Abstract

Seaweeds growth have a major structure of complex polysaccharides that limits the effective getting bioproducts. Marine organisms have the ability to absorb these starches.. Since several decades prior certain types of organisms have been utilized to deliver significant proteins called Hydrophobins (HFBs). Hydrophobins are amphiphilic and dynamic proteins on a superficial level and has been proposed in the drug, food and nanotechnology fields. The goal of this examination was to seclude and portray HFBs from marine organisms taking care of with sugars from ocean growth. A screening of strains of Ascomycetes marine parasites and filamentous (NBR assortment), was done, so as to discover the growths with the capacity to absorb alginate and cellulose from kelp, and produce HFBs. The utilization of green growth and waste from the green growth industry to create HFB, utilizing the lowered aging strategy, was assessed. Likewise, the boundaries of saltiness, brooding, temperature and pH were assessed and 4 unique techniques were set up to separate HFBs of class I and II, from the mycelium and culture stock. This HFBs were investigated by SDS-PAGE, Far-UV roundabout dichroism spectra and emulsification limit. The best mechanism for improve the yield of putative HFBs Class I, in D. salina and Penicilium pinophilum was alginate medium in the way of life stock, delivering 258 and 280 µg mL-1, separately. The portrayal of these putative hydrophobins shows that: a decent emulsification limit and an atomic loads under 14 kDa. The roundabout dichroism assimilation range shows that these proteins have a trademark alpha helix commitment. The fluorescence range with ThT shows that these proteins are self-collected in rodlet. It is attainable to separate HFBs with qualities of Class I of P. pinophilum from a base medium with Ulva sp. Accordingly, these microorganisms could be fantastic wellsprings of HFBs, utilizing ocean growth as a carbon source.

Biography:

Catalina Landeta is a Biologist from the Catholic University of Ecuador, has a Magister in Environmental Management and Auditing from the Polytechnic University of Catalonia, Spain, a Magister in Energy Engineering, mentioning biofuels from the Catholic University of Chile. She is currently a PhD (c) in Chemical Engineering and Biotechnology at the University of Chile. She has worked for more than 4 years in nationally recognized research projects of biorefinery of lignocellulosic materials in Ecuador. In Chile, the researcher is generating projects related to seaweed biorefineries and the study of marine fungi associated with algae. At the moment she is Director of a project to obtain a functional protein additive for feeding based on seaweed and fungi.

Speaker Publications:

1. "Birds introduced in new areas show rest disorders"; October 2013Biology letters 9(5):20130463
DOI: 10.1098/rsbl.2013.0463

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