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Study of the Alpha-L-Fucosidase Langmuir Monolayer at the Air-Water Interface

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Abstract

Alpha-L-fucosidase is a known biomarker for hepatocellular carcinoma that has shown great potential in diagnostics. Most of the focus for this enzyme has been on the free form found in serum; however, little is known of the properties of the minor portion of membrane-bound alpha-L-fucosidase. To better understand the properties of membrane-bound alpha-L-fucosidase, this enzyme was surveyed at the air water interface. Alpha-L-fucosidase is able to form a stable Langmuir monolayer, which was confirmed through surface-pressure and surface-potential area isotherms, as well as infrared reflection absorption spectroscopy (IRRAS). Furthermore, an interaction between the alpha-L-fucosidase Langmuir monolayer and a specific antibody for this enzyme, FUCA2, was observed.

Keywords


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