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Title: Extraction of the Potential Anti- Cancer Peptide (VECYGPNRPQF) from *Chlorella vulgaris* as a drug delivery system.

Abstract:

Microalgae are a group of eukaryotic organisms that live in freshwater or saline water. These organisms have many purposes and currently they are being studied for biomedical purposes. This research intends to culture *Chlorella Vulgaris* to extract a peptide (VECYGPNRPQF) which has anti-cancer properties. Cancer is a disease caused by the uncontrolled division of abnormal cells and can be spread to different parts the body through the blood. To accomplish this, algae will not only be exposed to a regular nutrient income but also are going to be treated with nanoparticles, which are believed to propitiate an overexposure of proteins in algae. This treatment is expected to increase the amount of peptide that could be possibly extracted from the algae. After the extraction steps, purification and characterization of the sample will be made, to ensure a high-quality product. Finally, we will study the efficiency of this peptide as a facilitator in a drug delivery system using gold nanoparticles.