

Cunha, S. A., de castro, R., & Pintado, M. E. (2021). *Enzymatic hydrolysis of the microalgae tetraselmis sp. production, characterization and ultrafiltration of antimicrobial extracts*. Abstract from Young Algaeneers Symposium 2021 (YAS 2021).

Microalgae have been studied for their bioactive compounds, such as peptides, with enzymatic hydrolysis appearing as the most frequently used method for producing bioactive peptides. Microalgae are easy to produce, making them a sustainable resource for the extraction of active ingredients for industrial applications. Therefore, this work focused on the production of water-soluble extracts rich in proteins and bioactive peptides with molecular weight lower than 3 KDa. The intact *Tetraselmis sp.* used showed 23.0% of protein, 6.2% of lipids, 18.9% of carbohydrates and 17.0% of fibers. Extracts were produced from the microalgae by enzymatic hydrolysis, using ultrapure water as the solvent. First, the mixture was incubated at 50°C for 2h with 4.7% of cellulase. Secondly, the mixture was incubated with 5% of a subtilisin protease at 40°C for 2h, to hydrolyze the proteins into smaller peptides. The produced extract was then fractionated by ultrafiltration in a Tangential Flow Filtration System (Cogent® µScale) using a cut-off of 3KDa. The resulting extract