

Bioactivity Evaluation of Cucurbitin Derived Enzymatic Hydrolysates

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Abstract : After cold pressing of pumpkin oil, the defatted oil cake (PUOC) was utilized as raw material for processing of bio-functional hydrolysates. In this study, the in vitro bioactivity of an alcalase (AH) and a pepsin hydrolysate (PH) prepared from the major pumpkin 12S globulin (cucurbitin) are compared. The hydrolysates were produced at optimum reaction conditions (temperature, pH) for the enzymes, during 60min. The bioactivity testing included antioxidant and angiotensin I converting enzyme inhibitory activity assays. The hydrolysates showed high potential as natural antioxidants and possibly antihypertensive agents in functional food or nutraceuticals. Additionally, preliminary studies have shown that both hydrolysates could exhibit modest α -amylase inhibitory activity, which indicates on their hypoglycemic potential.

Keywords : cucurbitin, alcalase, pepsin, protein hydrolysates, in vitro bioactivity

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