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ANTIFUNGAL PLANT EXTRACTS AS NATURAL FOOD CONSERVATIVES

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Fungal contamination is a major issue for the food industry. To tackle this issue while simultaneously satisfying consumers increasing demand for synthetic conservative free products, plant extracts were investigated as natural antifungal solutions. 60 fungal contaminants isolated from contaminated cakes and brioches provided by our industrial partners were purified and identified. 6 representative contaminants were chosen as fungal targets. 19 plants selected for their potential antifungal proteins content were extracted and screened *in vitro* for antifungal activity. The water extract of *Amaranthus* sp. seeds (E1) and of *Brassica oleracea* (var. *capitata* f. *rubra*) seeds (E2) showed promising activity against respectively 3 and 4 out of 6 contaminants. *In vitro* evaluation of antifungal activity before and after proteins digestion with proteinase K as well as *in situ* antifungal activity testing of extracts containing products are undergoing.

DECREASING γ -SECRETASE CLEAVAGE BY PLANT EXTRACTS SELECTED THROUGH ETHNOPHARMACOLOGY

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Background and Aim of the study: β -Amyloid peptide ($A\beta$) accumulation plays a key role in neurodegeneration in Alzheimer's dementia. In order to select candidates for the treatment of this disease, we investigated the activity on $A\beta$ production of extracts obtained from 9 plant species traditionally used for dementia treatment in Benin or in Madagascar. *Methods and Results:* Several extracts were tested on CHO cells overexpressing the human neuronal $A\beta$ precursor (APP695) to measure variations of APP processing (by Western-blotting) and, for the most active, of $A\beta$ -amyloid production (by ECLIA). We observed, at non-toxic concentrations, that *Pterocarpus erinaceus* stem-bark aqueous extract displayed effects similar to those of DAPT (γ -secretase inhibitor) on APP processing: a significant increase in CTF/APP ratio joined to an important decrease of $A\beta$ production. Moreover; both decreased γ -secretase-mediated APP cleavage in a membrane assay. *Conclusion:* This active extract is worth further studies to isolate the compounds responsible for the observed activity, to analyze its mode of action and determine its clinical potentials.