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Autor(en) des Beitrags: Schindler, Alexander; Dunkel, Andreas; Stahler, Frauke; Backes, Michael; Ley, Jakob; Meyerhof, Wolfgang; Hofmann, Thomas

Titel des Beitrags: Discovery of salt taste enhancing arginyl dipeptides in protein digests and fermented fish sauces by means of a sensomics approach

Abstract: As enzymatic digests of fish proteins were recently reported to enhance salt taste, the fish protein protamine was digested by chymotrypsin and trypsin and subsequently screened for candidate salt taste modulating (STM) peptides. To achieve this, first, a two-step sensory assay was developed and demonstrated to be a rather suitable tool for the detection of salt taste enhancers and the \{quantitation\} of their salt taste enhancing activity on the basis of isointensities with reference solutions. By means of activity-guided fractionation using ultrafiltration, gel permeation chromatography, and hydrophilic liquid interaction chromatography in combination with the sensory assay for STM activity assessment, a series of arginyl dipeptides, with RP, RA, AR, RG, RS, RV, VR, and RM being the most active, as well as L-arginine were found as salt taste enhancing molecules in fish protamine digests. For the first time, HPLC-MS/MS analysis on a PFP and a HILIC stationary phase, respectively, enabled the quantitative analysis of the arginyl peptides in a series of commercial and laboratory-made protein hydrolysates as well as fermented fish sauces.

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