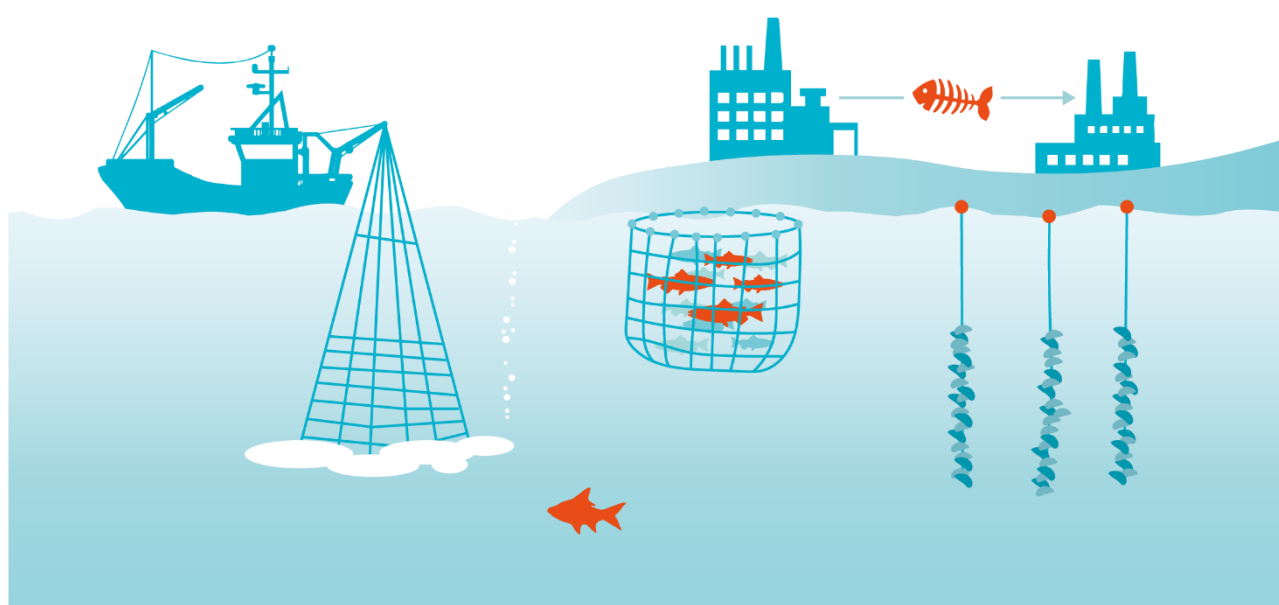


## D3.3 Obtaining bio-active peptides from solid side streams



Deliverable type: Report

WP number and title: WP3 Developing and testing (bio)technological processes on lab scale

WP leader: AZTI

Task number and title: Task 3.3 Bioactive peptides obtained by enzymatic hydrolysis from solid side streams

Lead beneficiary for the task: AZTI

Dissemination level: Confidential

Due date: 31.12.2021

Actual submission date: 17.12.2021

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Deliverable 3.3 on “Obtaining bio-active peptides from solid side streams” is considered confidential, and as stated in the consortium agreement and in IPR management plan, only executive summary, that contains non sensitive data, will be released within the project time span to protect any exploitable results.

## 1 Executive Summary

The objective of the WaSeaBi project is to solve challenges that prevents more sound exploitation of the aquatic resources. This will be obtained by developing, sorting technologies, storage solutions and decision tools that will secure an efficient, sustainable supply system for by-catches, as well as for solid and liquid side-streams from aquaculture, fisheries and the aquatic processing industries to biorefining operations. This will result in valorisation of these raw materials into marketable products.

By addressing side-streams from different raw materials emerging from typical aquaculture, fisheries and aquatic processing industries in Europe, WaSeaBi will take a whole chain perspective to succeed with high quality production of: i) bioactive peptides for nutraceutical, food and feed applications, ii) protein-based food ingredients, iii) savoury ingredients and mineral supplements for food and feed. WaSeaBi will also construct biorefining approaches and validate selected solutions in pilot scale at the premises of participating companies. The commercial potential of the produced ingredients will be evaluated and specific environmental, economic and social impacts of the proposed solutions will be quantified. Several of the developed technologies will be transferable across seafood companies.

This deliverable reports the main important results on Task 3.3 Bioactive peptides obtained by enzymatic hydrolysis from solid side-streams of the Work Package 3: Developing and testing (bio) technological processes on lab scale.

Six side streams were hydrolysed with seven different enzymes to yield peptides that were tested in several bioactivity analysis. The resulting products were tested for the antioxidant capacity, antihypertensive activity, and their antibacterial performance against seven different strains.

Main results showed good antioxidant capacity of most of the hydrolysates, while antihypertensive activity was only present in some samples. Finally, only one hydrolysate showed antimicrobial activity against two of the tested strains.

Successful products will be upscaled in the next work package to better evaluate yields and the techno-economics aspects of the valorisation process.