

## Matis

Matis is an independent research and development company focusing on R&D in the area of food and biotechnology, and provides consultation worldwide to companies in the food industry.

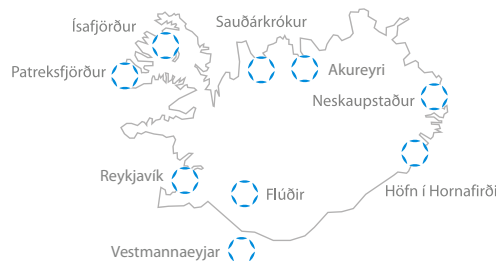
Matis operates ten laboratories and R&D centers around Iceland with its headquarters in Reykjavík and has a highly educated and experienced workforce of 100 employees with backgrounds in different areas. Matis has a strong reputation for combining applied, near-market research with state-of-the-art, cutting-edge fundamental science that underpins the applied work. Matis is a well-known partner within global food and biotech R&D and has played a leading role in large international projects and has an ongoing fruitful cooperation with many of the largest food and ingredient companies in the world such as PepsiCo, Nestlé and Roquette. For more, visit [www.matis.is/en](http://www.matis.is/en).

## Fish proteins and peptides

Since its inception, Matis has run an active program developing processes to produce functional and bioactive protein and peptides from various marine raw material protein sources, including low cost byproducts. A number of different species and raw materials have been the subject of this work, and a series of different processes developed, including enzymatic hydrolysis to produce peptides of specified molecular weights.

Matis is exceptionally well equipped and staffed to do work in the fish protein/peptide area, with state-of-the-art laboratory facilities to develop processes on a small scale, as well as characterize the end products and run extensive bioactivity and functional testing on them. Matis operates a lab devoted to this work.

Matis has several scientists and engineers with decades of experience in the field of fish proteins/peptides, and is a holder of several proprietary processes, including one pending patent, in this area. Furthermore, Matis operates a biotechnology pilot plant, where all processes can be scaled up and significant test quantities of proteins and peptides produced.



The pilot plant includes:

- Thermally regulated tanks (hundreds to thousand liter capacity)
- Industrial decanter
- GEA pilot scale micro- and ultrafiltration unit
- Pilot scale evaporators
- Pilot scale spray drier
- Pilot scale freeze driers

The fish peptide ingredients developed by Matis have been tested and demonstrated (*in-vitro*) to have strong:

- Radical scavenging activity
- Metal chelation activity
- Anti-hypertensive activity
- Anti-inflammation activity
- Anti-diabetic activity

The fish proteins/peptides have a favorable amino acid composition, with all the essential amino acids and at least 20% of the amino acids as branched amino acids. Much work has been conducted on producing peptides with a favorable flavor profile, by optimizing reaction conditions and the type of enzymes used.

The technologies and processes developed by Matis in the protein/peptide field are available for third parties wanting to commercialize the production of protein/peptide ingredients.

For more information please contact:

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