

## Summary

### The effect of technological processing and simulated digestion on the antioxidant potential of fish protein hydrolysates

The main object of this doctoral thesis was to determine the effect of heat treatment and simulated digestion on the antioxidant activity of protein hydrolysates obtained from mackerel and herring. This dissertation is based on a series of three publications. Publication No. 1 is a review of protein hydrolysates with biological properties derived from fish raw materials. Publication No. 2 and 3 is research works, concerning the influence of heat treatment of raw fish material, i.e. cooking, baking, frying and sterilization, as well as hydrolysis and simulated digestion, on the antioxidant activity of meat and hydrolysates obtained from it. The antihypertensive activity of protein hydrolysates from mackerel and herring meat, previously subjected to various thermal treatments, was also analyzed. The effects of heat treatment on the anti-radical activity of DPPH, the ability to reduce iron ions and the change in iron chelation in meat and fish hydrolysates were observed in these studies. In addition, changes in the profile of free amino acids in fish protein hydrolysis were shown. as a result of heat treatment and simulated digestion?. On the basis of the conducted analysis, it was found that the heat treatment of mackerel meat carried out before the enzymatic hydrolysis process influences the biological activity of the obtained protein hydrolysates. Higher biological activity of the hydrolysates can be obtained by selecting the appropriate thermal treatment applied during the preparation of the raw material.

*Małgorzata Łonek*