

Bachelor's/ Master's/ Semester Thesis

Characterization of proteins from basidiomycetes fermentations

Keywords: Protein analysis | Aroma compounds | Analytical methods

Project Description

In recent years, there has been a significant global rise in the demand for dairy products such as cheese and curd. Similarly, the consumption of soy-based products like tofu has been on the rise worldwide. However, the production of these products leads to the generation of side streams, namely acid whey from curd/cheese production and soy whey from tofu production.

Acid and soy whey, despite their nutritional composition in terms of proteins, carbohydrates, fatty acids and other valuable components, are not accepted by consumers due to their sour taste. As a result, these side streams are usually cost-intensively disposed or added to animal feed.

The objective of this project is to utilize these valuable components present in the acid and soy whey through *de novo* synthesis or biotransformation using a fermentation process.

The aim of the student thesis is to characterize and compare proteins in the liquid samples before and after the fermentation process.

Profile

- Structured and independent work
- Motivation to work as a team
- Bachelor or master student in biotechnology, biochemistry, biology or similar
- Lab experience (analytical and preparative techniques) – *ideal, but not required*
- **Start date:** flexible

Tasks

1. Literature review
2. Characterization of protein profile
3. Using methods such as:
 - mass spectrometry (MALDI-TOF, ESI)
 - SDS-PAGE
 - chromatography
 - and others



Fermented samples used for DSP