

Bachelor's /Semester/Master's thesis

Separation/Extraction of Protein and Polysaccharide

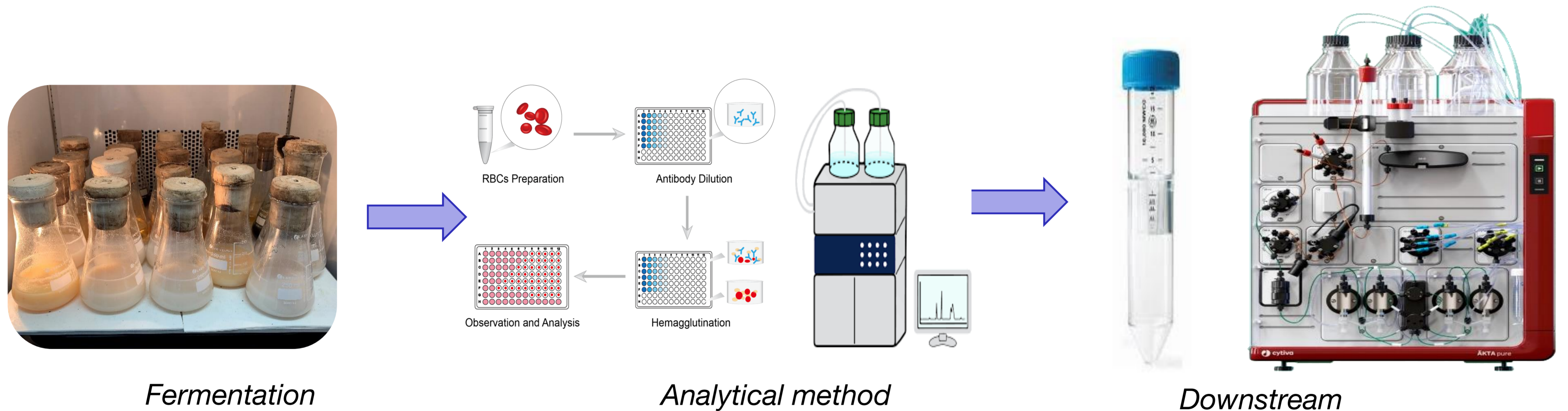
Keywords: Basidiomycetes fermentation | Hemagglutination | Lectin | HPLC | β -Glucan

Project Description

Filamentous fungi in particularly basidiomycetes or wood rotting fungi are beneficial to humankind as they have a lot of biomolecules such as protein, polysaccharides which have different applications in food, the cosmetic industry and so on. The project aims to ferment these fungi sustainably, with a later focus on extracting and separating these biomolecules using novel and conventional methods

The focus of my project is on particularly lectins(protein) and β -glucans(polysaccharides) to extract and separate them from fungi using efficient downstream units such as (fractionation and chromatographic methods.

This will involve screening and optimizing different extraction methods, chromatographic methods, and filtration (fractionation) and also to scale up this methods. Not only this, it also involves the fermentation of the fungi by using different media to increase the biomass.



Research Objective

1. Optimisation of reproducible fermentation process for fungi
2. Screening and optimizing different extraction/chromatographic/fractionation methods
3. Development of analytical methods: HPLC, Hemagglutination assay, SDS Page

Profile

- Structured and independent work
- Motivation to work as a team/ willing to learn
- Bachelor/Master student in biotechnology (IBT, MBT), biochemistry, biology, chemistry microbiology, or similar
- **Start date:** as soon as possible
- Language: English
- Ideal, but not required: Lab experience
- Thesis title: can be adjusted