

Master's or Bachelor's thesis / Internship

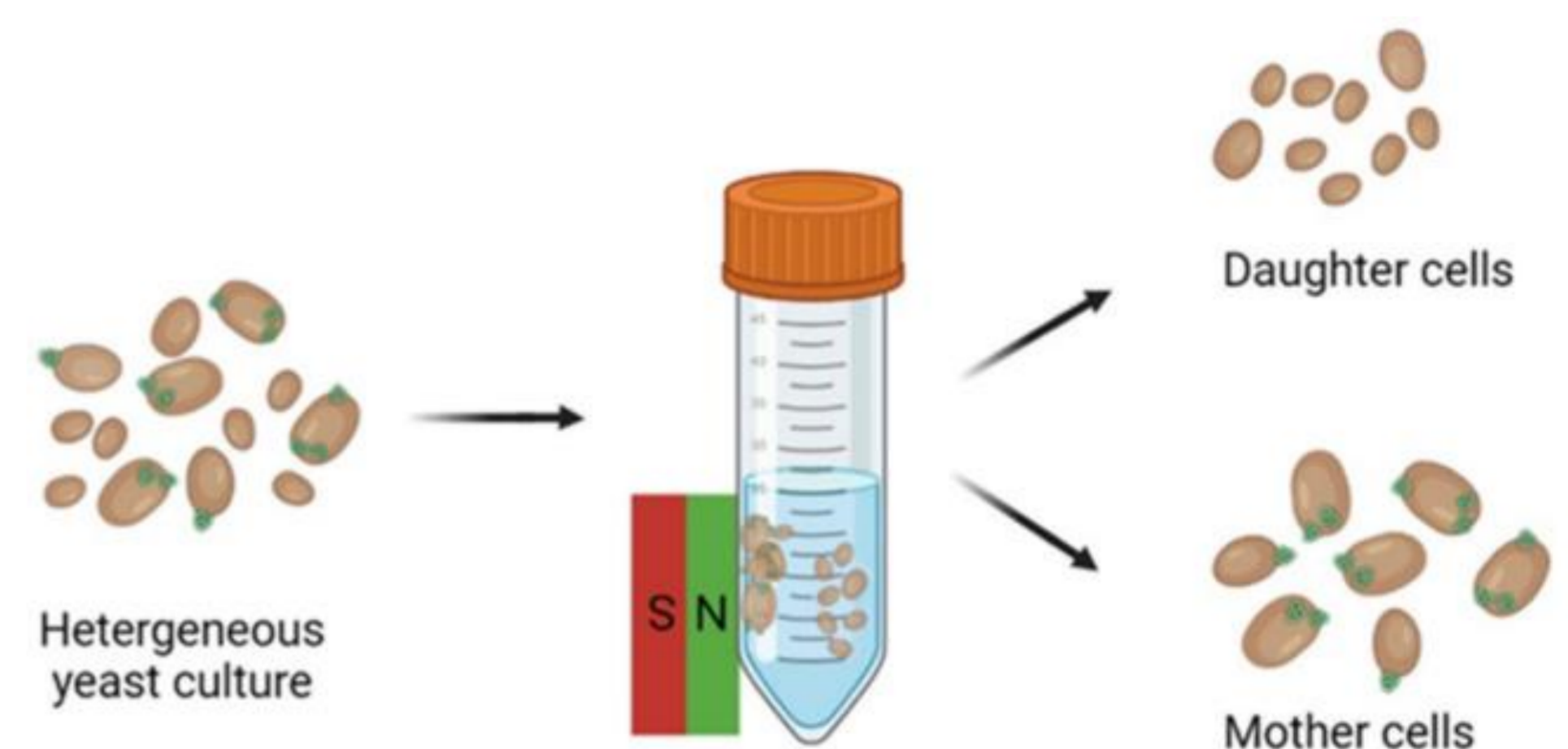
Age-specific yeast fractionation through magnetic nanoparticles (MNP)

Keywords: HR4-tag – Magnetic nanoparticles – Method development – Yeast

Project Description

In current practice, only heterogeneous yeast cultures in terms of cell age are used for fermentation processes. However, the age of the yeast cells significantly influences fermentation performance, the duration of fermentation, and the formation of aroma compounds.

To better understand the influence of yeast age, a method for the preparative age-specific separation of brewer's yeast is being developed in this study project. Thereby, a bi-functional ligand and magnetic nanoparticles will be used to separate mother and daughter cells.



DOI: 10.1039/d4lc00185k

Profile / further Information

- Independent and structured way of working
- Team player
- Experience with laboratory work is of advantage
- Student in the field of biotechnology, biochemistry, chemistry or similar
- Student enrolled at TUM

- Start: From January 2026
- Location: Garching
- Language: German/English

Possible tasks

- MNP synthesis
- MNP coating with APTES/GPTMS
- Optimization of the buffer system
- Method development for yeast fractionation through MNP
- Evaluation of static binding capacities
- Evaluation of yeast cell number, vitality, and age through microscopy
- Analytical methods: BCA-assay, UV-Vis absorption, fluorescence, SDS-PAGE, microscopy

Contact

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