

Bachelorthesis/Masterthesis/Internship

Purification of Antibodies using Magnetic Nanoparticles

Keywords: Pilot scale - Magnetic Nanoparticles – Purification – Antibodies

Project Description

In this research project, antibodies should be purified from a highly complex matrix for later application in the food and cosmetic industry.

The focus of this work will be the process optimization for the purification of using magnetic nanoparticles. Therefore, different parameters need to be investigated like:

- Establishing a HPLC method for antibody quantification
- Analysis of samples by mass spectrometry
- Synthesis of magnetic nanoparticles
- Particle to protein ratio, pH value
- Reusability
- Scale-up to pilot scale using high gradient magnetic separation
- Process optimization

Your Tasks/Methods

- Synthesis of particles
- Analytics
 - SDS Page
 - HPLC
 - Plate assays
- Large scale purification
- Filtration

Your Profile

- Independent and structured way of working
- Experience with laboratory work
- Student in the field of biotechnology, biochemical engineering chemistry or similiar

Contact

Start: From now/Flexible
Language: German/English

Julian Galbusera
j.galbusera@tum.de