

Preface

Despite ongoing progress in nano- and biomaterial sciences, large-scale bioprocessing of nanoparticles remains a great challenge, especially because of the difficulties in removing unwanted elements during processing in food, pharmaceutical, and feed industry at production level. While conventional processing requires a multitude of steps, a new approach was investigated based on the selective separation of proteins by adsorption to functionalized particles and selective separation by magnetic forces.

This book originated in a project called MagPro²LIFE, which was funded by the EU in the seventh Framework Program and conducted from July 2009 to June 2013, and united many experts in the field to create a platform technology. It based on the results of the preceding project NanoBioMag, which laid the basics for the upscale of the process. The aim of the book is to collect the knowledge gathered during the project for use or for further research in the area. It provides a summary of the current state and the latest developments and achievements in the project. Topics include the synthesis of particles and their functionalization by different methods, the development of magnetic separation technology, and the application for In-Situ separation and downstream processing.

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Hermann Nirschl

Upscaling of Bio-Nano-Processes

Selective Bioseparation by Magnetic Particles

Nirschl, H.; Keller, K. (Eds.)

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