

1 Fluorescence microscopy of human fibroblasts (cell line BJ); cell nuclei blue (DAPI), actin green (Phalloidin), microscope Keyence BZ-X800, magnification 20x

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BIOLOGICAL INTERACTIONS OF MATERIALS

Background

During the development of medical devices, the characterization of the interactions between materials and the living environment is of particular importance.

Especially for wound care materials, the binding of proteins and enzymes to material surfaces is of particular interest, as well as antimicrobial material properties and biocompatibility.

Technology

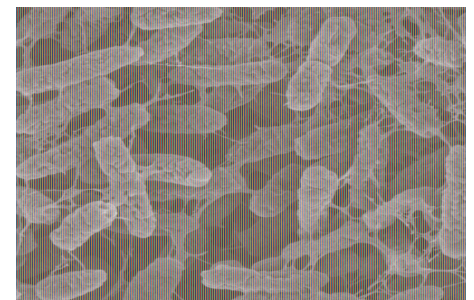
Depending on the material requirements, we offer both standard and customized methods to investigate:

- Biocompatibility
- Cytotoxicity
- Antimicrobial efficacy
- Adhesion and growth of pro- and eukaryotic cells
- Sterility and endotoxine load

The combination of biological and biochemical interactions with microstructural or mechanical material properties is noteworthy in the research and development of innovative materials for medical applications.

The following technologies and methods are used for this purpose:

- Microbiology (aerobic, anaerobic, static, dynamic, up to R2)
- Cell culture, tissue engineering, skin model
- Histology
- Microscopy (light-, fluorescence-, SEM)
- Biochemistry (protein analysis)



2 SEM: Biofilm of *Pseudomonas aeruginosa*