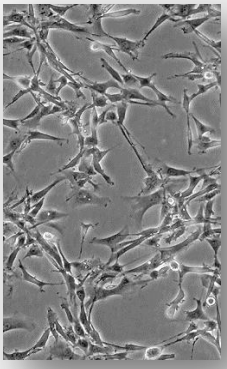
Institute of Biotechnology and Biochemical Engineering
Petersgasse 12/I, 8010 Graz

# Master's Thesis

## Towards unbiased metabolomics of Glioblastoma

### Open topic

Glioblastoma multiforme (GBM), the most common and malignant brain tumor in adults rely on aerobic glycolysis a phenomenon also known as "Warburg effect". **Metabolomic** analysis – the determination of intracellular metabolites – has emerged as an **important** approach for studying cellular **biochemistry** and to identify key **biomarkers**. Because intracellular metabolite pools are very **sensitive** to changes in environmental conditions preparation of representative samples is a **challenging** process. In this Master's Thesis a **novel** sample preparation **device** will be integrated into the current work flow with the aim to enable **unbiased** metabolite **profiling** of GBM at a medium throughput level. The project will be carried in **cooperation** with the HEALTH Institute, **Joanneum Research** and the Institute of Molecular Biology and Biochemistry, **MedUni Graz**.



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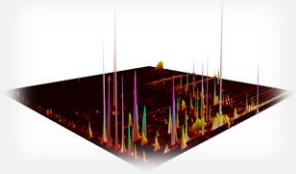
### Methods involved

- Adherent cultivation of Glioblastoma cell lines
- Validation of sample preparation device
- Intracellular metabolite profiling using LC/MS-based techniques



### Start of Thesis

- At any time

### Contact

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Graz, February, 2017