



twb
White Biotechnology
center of excellence

RAPID OPTIMISATION OF MICROBIAL AND ENZYMATIC BIOPROCESS

Our strengths

Reliability and reproducibility: completion of numerous parallel quality tests

Optimisation per design of experiment

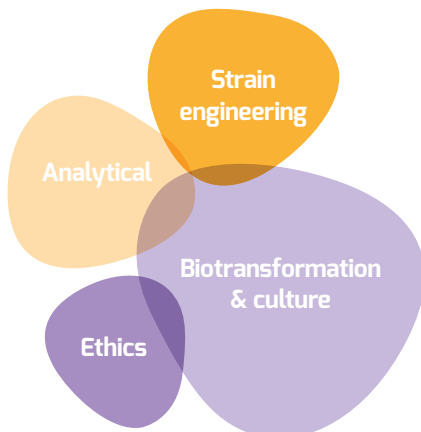
Wide range of culture volumes

Speed and reliability of automation: time saving up to a factor of 5 compared to conventional reactors

Scale-down reflecting the reality of higher scales

Development of customised methodologies and processes

Multidisciplinary 6-person team



An integrated solution tailored to the needs, to accelerate the development of industrial biotechnology

Our service

- ▶ **Consolidated selection of strain or powerful enzyme**
- ▶ **Optimisation of culture conditions (medium, pH, agitation, aeration...)**

- Inferior prokaryotic or eukaryotic cell, aerobic and anaerobic conditions
- Free or immobilised enzyme
- Batch, fed-batch, continuous

Deliverables

- ▶ Optimal strain
- ▶ Efficient catalytic variant
- ▶ Optimised medium and environment conditions
- ▶ Biokinetic characterisation
- ▶ Process performance data

Equipment

- ▶ **Culture robot, 24 instrumented mini-reactors**
50 mL working volume (Hamilton, HEL)
- ▶ **Multiplexed reactors** from 400 mL to 5 L
working volume (Applikon, Sartorius)
- ▶ **Mass spectrometer** (gas analysis)
- ▶ **Analytical equipment** (LC-MS, GC-MS, ...)
- ▶ **Analyser and sorter cytometers**



Some achievements

- ▶ **Definition of an industrial culture medium**
- ▶ **Development of production processes**
- ▶ **Selection of optimum conditions** of enzymatic catalysis
- ▶ **Scale-down study**
- ▶ **Transposition of an adherent culture** towards a suspension culture

Additional services

- ▶ **Metabolic study and transcriptomic dynamics**
- ▶ **Adaptation of strains by continuous parallel cultures**
- ▶ **Scale-up: microbial culture, enzymatic reactor**
- ▶ **High throughput screening by cellular sorting**



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Customised estimate on request

