



**twb**  
White Biotechnology  
center of excellence

# SINGLE CELL CHARACTERISATION AND HIGH THROUGHPUT SCREENING OF MICROBIAL CELLS BY CYTOMETRY

## Our strengths

**Fast analysis:** 1hr characterisation, sorting up to 100,000 cells per second

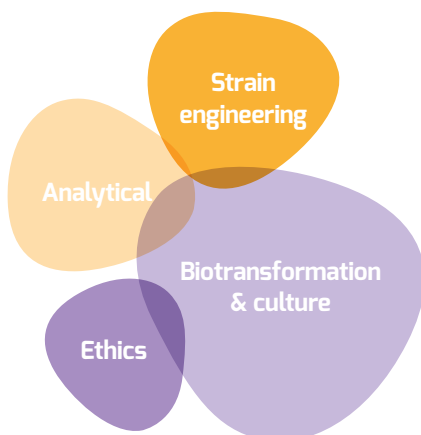
**Accurate and reliable results:** wide resolution range from 0.2 to 30  $\mu\text{m}$

**Multiparametric sorting and analysis**

**Sorter solely dedicated to microorganisms**

**Development of custom methodologies and processes:** reporter choice, sorting processes, ...

**Dedicated specialised scientist**



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

## Our service

- ▶ **Individual quantitative and qualitative characterisation of microorganisms in suspension**
- ▶ **Very high-speed cell sorting**

- Prokaryotic or eukaryotic cells in suspension
- Direct analysis of the intrinsic optical properties and fluorescence induced
- Direct and standardised numeration with viability and vitality staining
- Selection of homogeneous populations

## Deliverables

- ▶ Enumeration
- ▶ Physiological data: intracellular pH, oxidative stress, membrane potential and membrane fluidity
- ▶ Validation of a gene alteration
- ▶ Isolated cellular populations in suitable culture tubes (up to 6)
- ▶ Isolated clones in plates of 96, 384 or 1536 wells with one cell per well
- ▶ Analysis reports (cytograms and statistics)

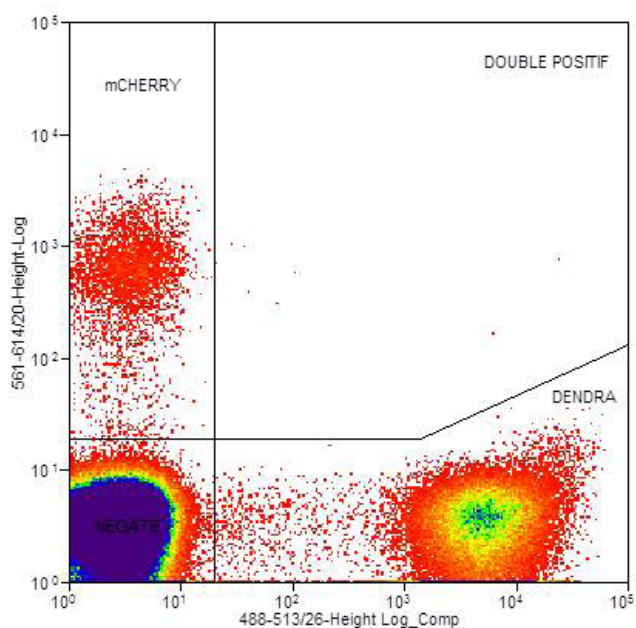
# Equipment

- ▶ **Cell sorter** MoFlo Astrios EQ, Beckman Coulter (5 lasers, jet-in-air, dual forward scatter technology, fully integrated in BSLII)
- ▶ **Cytometer analyser** MACSQuant VYB, Miltenyi Biotec (3 lasers, absolute counts performance, plate autosampler)
- ▶ **FlowJo v10.1** (Tree Star, Inc): reference software for advanced flow cytometry data analysis



## Some achievements

- ▶ **Population assessment** in microbial consortia
- ▶ **Detection and physical isolation** of viable but non-culturable populations
- ▶ **Detailed analysis of microbial catalysts** for process improvement
- ▶ **High throughput screening** of cellular banks and selection of mutants of interest



## Additional services

- ▶ Transcriptomic and metabolomic dynamic studies
- ▶ Scale-up: microbial culture, enzymatic reactor

## Contact

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*Customised estimate on request*

