Rainbow Cell Technologies

Imagine a biotechnological production process where cells change the colour in real-time to indicate how well they are performing with the current process conditions …

BACKGROUND

Production cell lines currently are strenuously monitored by costly real-time measurements of unspecific physicochemical parameters such as pH, temperature, off-gas, specific metabolites, etc. where only indirect conclusions can be drawn with some effort. Vital and decisive cellular conditions responsible for growth, stress responses, apoptosis, etc. are still impossible to monitor directly.

TECHNOLOGY

acib is now developing a completely novel tool for real-time fermentation process monitoring: Production cells are engineered to autonomously report their actual condition via emission of specific fluorescences (aka 'Rainbow Cells'). This is possible by linking activity signatures of proteins which are known to be highly predictive of immediate cellular fates to activation of specific fluorescence signals. The technique is based on coupling conformational changes with novel reversible and dynamic, tripartite GFP-derived complementation systems. The result is a highly sensitive, specific, non-invasive and easily implementable real-time monitoring adaptable to all currently used production cells.

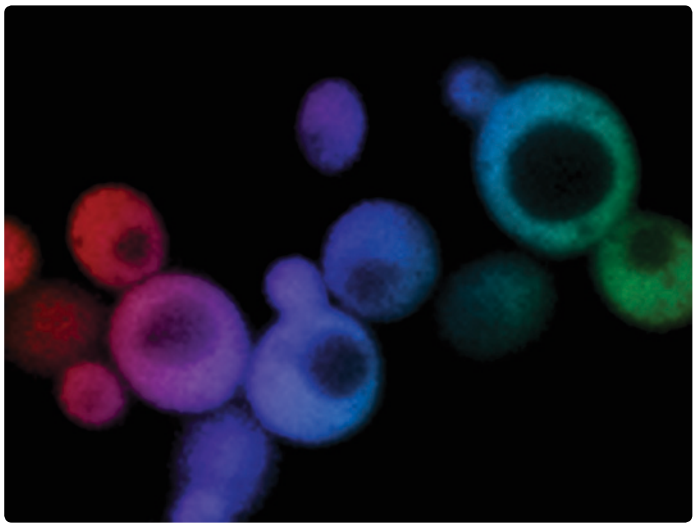

Foto: acib

OUR OFFER

Under protection of CDA we offer to transform your current prokaryotic or eukaryotic production cells to provide a complete, highly specific and informative real-time monitoring of their cellular status.
This technology can also be used for drug screenings (e.g. Rainbow Cells reporting the current status of cancer pathways and cells and their response to compound libraries).

SPECIAL OFFER

acib has access to funding from a COMET funding call and can offer a 4-year long-term R&D collaboration on developing Rainbow Cells with an 80 % funding quota: EUR 320,000 funding + EUR 80,000 co-financing in cash from you as a company partner.

EXPERTS

Prof. Dr. Rainer Schneider
Prof. Dr. Eduard Stefan

AVAILABLE FOR

- Joint Research Project
- Contract Research
- COMET Funding call

DEVELOPMENT STATUS

TRL 1

KEYWORDS

- Microbial Cell Factories
- Real-Time Process Monitoring
- Fluorescence Signaling
- Sensitivity
- Non-invasive
- Drug-Screening

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