



Rejuvenated yeasts for better production

You want to save money on expensive fermentation processes and speed them up? Young and viable cells provide a better fermentation performance. acib's technology rejuvenates your yeast culture to increase process productivity without affecting other parameters.

BACKGROUND

Yeasts are one of the most important microorganisms used in the food, beverage and pharmaceutical industry. Therefore, the potential of increasing the productivity of yeasts such as *Saccharomyces cerevisiae*, *Saccharomyces pastorianus* and *Pichia pastoris* is gigantic. Aging affects the productivity of yeast cells and while old cells still consume nutrients the output is greatly reduced. The size of single cells as well as the composition of the cell membranes is changing with age, leading to different transport and productivity properties. By separating old yeast cells from young cells it is possible to rejuvenate the culture and boost productivity.

TECHNOLOGY

acib offers selective separation of yeast mother cells from daughter cells. A stationary phase material can be used for this separation operation. Expanded-bed chromatography is used to retain mother cells due to a specific affinity linker for the budding scars occurring in mother cells. While the daughter cells can be used for more effective fermentation processes, the retained mother cells can be eluted and reused as well. A faster growth of the cells as well as a higher productivity for ethanol production has been shown for *Saccharomyces pastorianus*. Such a separation is also possible for industrial workhorse *Pichia pastoris*. This will allow for higher productivity and subsequently lesser energy for the heating/cooling of yeasts in the fermentation processes. This method is an important step for more economical and sustainable yeast applications.

OFFER

Under protection of a CDA/NDA we provide you with strategies for yeast rejuvenation to obtaining faster production with your yeast strain for applications from beverage industry to pharmaceutically-relevant products. Any IP developed in such projects will belong to you as our industrial partner.



acib-EXPERTS:

Prof. Dr. Sebastian Schwaminger

AVAILABLE FOR:

- Investments
- Joint Research Projects (COMET, EU-Horizon, CORNET, etc.)
- Contract Research

DEVELOPMENT STATUS:

Technology Readiness Level 5 (*Saccharomyces cerevisiae* and *Saccharomyces pastorianus*)
Technology Readiness level 3 (*Pichia pastoris*)

IPR:

Will be generated for you as our industrial partner / investor

KEYWORDS:

Yeast
Beer
Pichia pastoris
Separation
Expanded Bed
Saccharomyces pastorianus
Pharmaceuticals
Downstream Processing

CONTACT

acib GmbH
Krenngasse 37
8010 Graz
tel: +43 316 873 9316
e-mail: bd@acib.at
www.acib.at