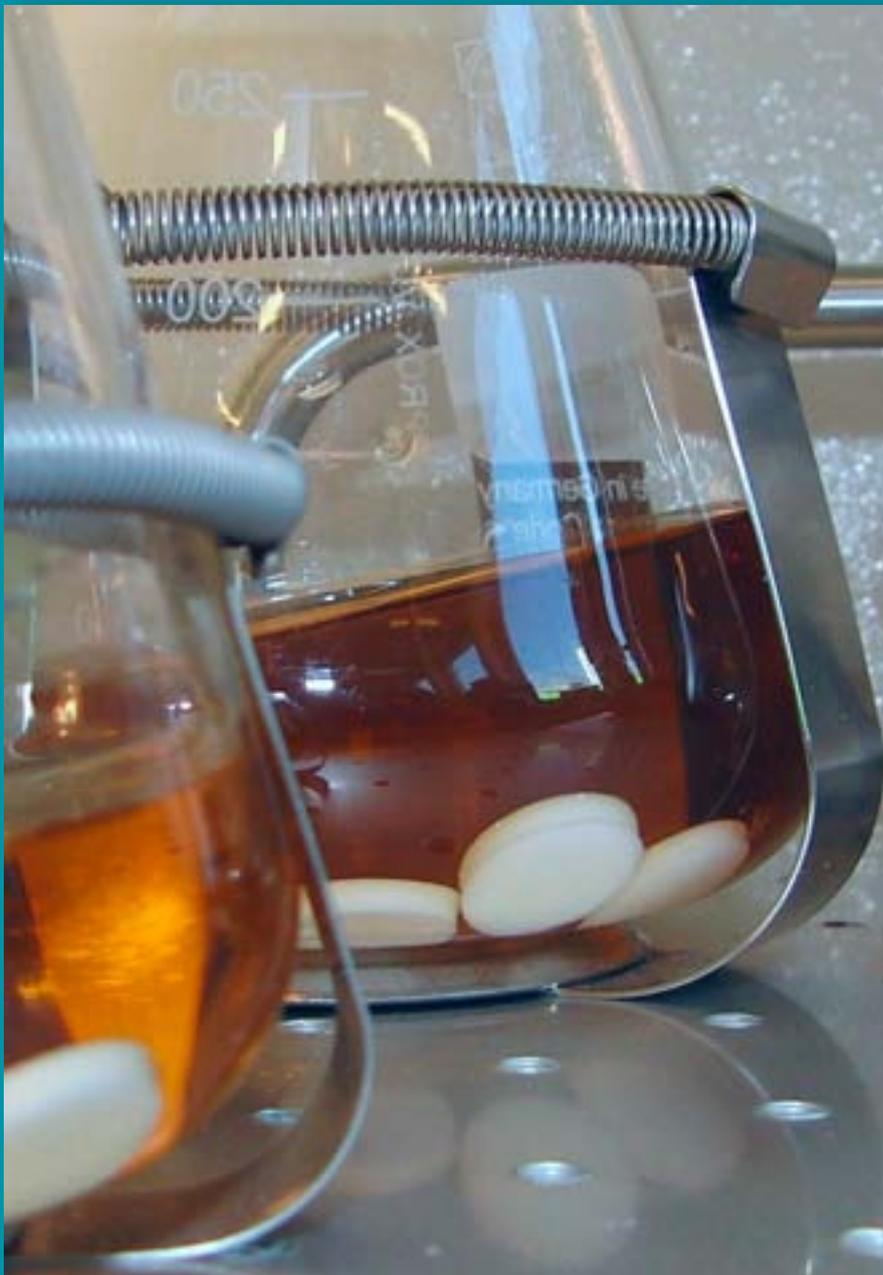


Kuhner shaker

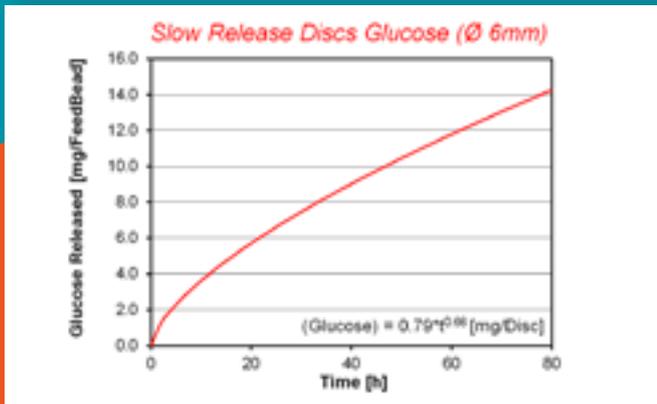
FeedBeads[®]

Polymer based
slow release system
for glucose



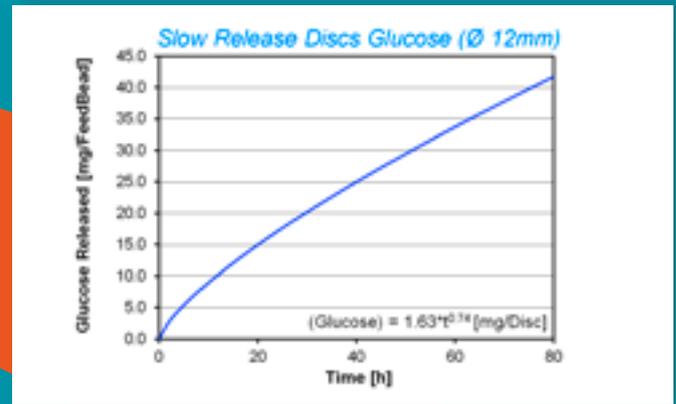
Release Kinetic of the \varnothing 6mm FeedBeads

Conditions: 0.1M phosphate buffer, pH = 7, T = 37°C



Release Kinetic of the \varnothing 12mm FeedBeads

Conditions: 0.1M phosphate buffer, pH = 7, T = 37°C



FeedBeads[®]

Controlled glucose delivery by slow release technology

FeedBeads provide substrate limited fed-batch conditions in the shaken bioreactor without the need for enzymes or additional equipment such as tubing or pumps.

Fed-batch operation

FeedBeads are polymer particles enabling the user to run fed-batch processes in shake flasks or microtiter plates. The user can now apply an additional screening routine (batch and fed-batch) under substrate limited conditions. As a result, FeedBeads can increase the probability of identifying an optimal production strain during the screening phase.

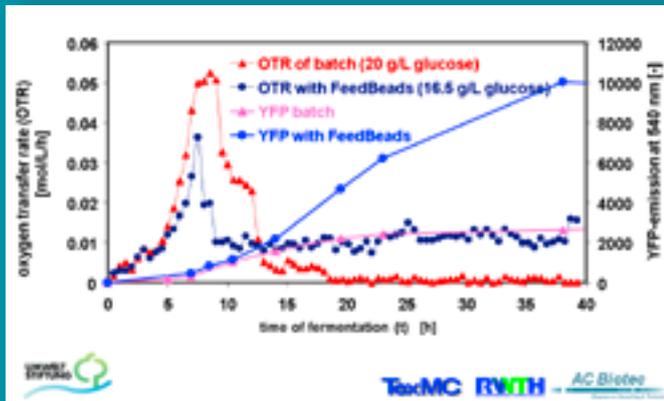
- + Improves screening security
- + Suitable for high throughput screening (HTS)
- + Easy handling
- + Fed-batch without tubing and pumps
- + Reduces overflow mechanism of the culture
- + Reproducible pre-culture
- + Synchronisation of pre-cultures
- + No additional enzymes

Scale-up

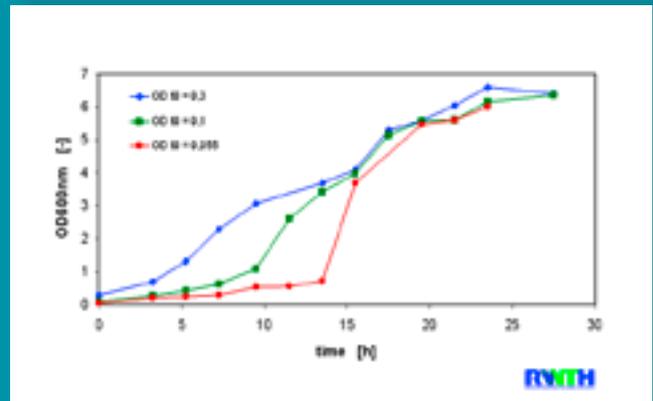
Through the use of FeedBeads the main disadvantages of the batch approaches (e.g. Crabtree-Effect, Overflow Metabolism, ...) can be avoided, optimal production strains can be identified quickly, and scale-up runs very smoothly.

YFP-Production with recombinant *E. coli*

Mineral medium; temperature 37°C; shaking diameter 50mm;
shaker speed 350 rpm; VL = 12.5 mL

**Fed-Batch preculture of *E. coli* BL21 YFP in MTP**

Wilms-MOPS medium without carbon source;
temperature 37°C; shaking diameter 50mm;
shaker speed 400 rpm; VL = 700 µL



Product information

- Sizes**

25 pieces, Ø12mm (shake flasks),
100 pieces, Ø 6mm (microtiter plate)

- Substrate**

glucose

- Options**

on request other crystalline nutrients
are available as the limited substrate

Order information:

SMFB63319:
FeedBeads Glucose
(Ø 12mm), pack of 25

SMFB63318:
FeedBeads Glucose
(Ø 6 mm), pack of 100

Publication:

Fed-batch mode in shake flasks by slow-release technique (p433-445) M.Jeude, B. Dittrich, H.Niederschulte, T. Anderlei, C. Knocke, D. Klee, J. Büchs *Biotechnology & Bioengineering*, Volume 95, Issue 3.

The Slow Release technology was developed by the University of Technology, Aachen (Department of Biochemical Engineering and Textile and Macromolecular Chemistry), Rheinisch-Westfälische Technische Hochschule Aachen, supported by Deutsche Stiftung Umwelt.



Fed-Batch without tubing & pumps

www.kuhner.com

Kuhner

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