



## Bioreactors for Microbial Applications Selected Bibliography



**(2017) Leupold, Marco; Rosemann, Sönke; Dreiling, Diana:**

High cell density *Escherichia coli* fed-batch cultivation in the new BIOSTAT® B-DCU.

🔗 In: Manufacturing Chemist Pharma.

🔗 Benchtop Bioreactor, *E. coli*, High Cell Density Fermentation

**(2017) Schirmer, Cedric; Blaszczyk, Katharina; Husemann, Ute; Zahnow, Christian; Rupperecht, Jens; Greller, Gerhard et al.:**

Engineering and biological characterization of stirred tank bioreactors based on DECHEMA recommendations.

Hg. v. Sartorius Stedim Biotech GmbH.

Zürcher Hochschule für Angewandte Wissenschaften, Sartorius Stedim Biotech GmbH, Goettingen.

🔗 Stainless Steel Bioreactor, *E. coli*, High Cell Density Fermentation

**(2017) Velez-Suberbie, M. Lourdes; Betts, John Pj; Walker, Kelly L.; Robinson, Colin; Zoro, Barney; Keshavarz-Moore, Eli:**

High throughput automated microbial bioreactor system used for clone selection and rapid scale-down process optimisation.

🔗 In: Biotechnology Progress.

🔗 Multi-Parallel Bioreactor, *E. coli*, High Throughput

» The ambr® 15 fermentation system is an efficient high throughput microbial system that can be used for strain and molecule selection as well as rapid scale-up. Here the bioreactor reproducibility both within and across culture stations was evaluated, in fed-batch mode for microbial cell growth and production of heterologous proteins. It has been demonstrated that this automated high throughput micro-bioreactor system can be used as scale down tool for microbial fermentation.

**(2016) Chopda, Viki R.; Gomes, James; Rathore, Anurag S.:**

Bridging the gap between PAT concepts and implementation. An integrated software platform for fermentation.

🔗 In: Biotechnology Journal 11 (1), S. 164–171.

🔗 Benchtop Bioreactor, *P. pastoris*, Process Analytical Technologies

**(2016) Keil, Gregory; Saunders, Jason; Zoro, Barney; Betts, John; McHugh, Kevin:**

Micro and mini bioreactors for microbial strain and process development: experiences with the ambr® 15 fermentation and ambr® 250 systems.

🔗 2016 SIMB Annual Meeting and Exhibition.

SIMB – Society for Industrial Microbiology and Biotechnology. New Orleans, LA, U.S.A., 25.07.2016.

🔗 Multi-Parallel Bioreactor, *E. coli*, Technical Advances

**(2016) Wagner, N.; Rogalla, J.; Kiziak, C.; Betts, J.; Zoro, B.:**

Evaluation of the ambr® 15 fermentation system for high cell density XSTM *E. coli* and XSTM *P. pastoris*: strain screening and scalability.

🔗 2016 SIMB Annual Meeting and Exhibition.

SIMB – Society for Industrial Microbiology and Biotechnology. New Orleans, LA, U.S.A., 24.07.2016.

🔗 Multi-Parallel Bioreactor, *E. coli* | *P. pastoris*, High Cell Density Fermentation

**(2015) Zoro, Barney:**

ambr® 15 fermentation for enhanced microbial strain screening applications. Recent Advances in Fermentation Technology (RAFT 11).

🔗 SIMB – Society for Industrial Microbiology.

Hilton Clearwater Beach Hotel, Clearwater Beach, FL, U.S.A., 08.11.2015.

🔗 Multi-Parallel Bioreactor, *E. coli*, Technical Advances

**(2014) Gogliettino, Marta; Riccio, Alessia; Cocca, Ennio; Rossi, Mosè; Palmieri, Gianna; Balestrieri, Marco:**

A new pepstatin-insensitive thermopysin-like protease overproduced in peptide-rich cultures of *Sulfolobus solfataricus*.

🔗 In: International Journal of Molecular Sciences 15 (2), S. 3204–3219.

🔗 Stainless Steel Bioreactor, *S. solfataricus*, Enzyme



**(2013) Dreher, Thomas; Müller, Matthias; Husemann, Ute; Greller, Gerhard; Rosemann, Sönke:**

High cell density *Escherichia coli* cultivation in a BIOSTAT® A.

Hg. v. Sartorius Stedim Biotech GmbH.

🔗 Benchtop Bioreactor, *E. coli*, High Cell Density Fermentation

**(2013) Dreher, Thomas; Zahnw, Christian; Husemann, Ute; Greller, Gerhard; Grebe, André:**  
High-cell-density Cultivation of *Escherichia coli* in a BIOSTAT® D-DCU 10-3 Stainless Steel Bioreactor.

Hg. v. Sartorius Stedim Biotech GmbH.

🔗 Stainless Steel Bioreactor, *E. coli*, High Cell Density Fermentation

**(2013) Mohd Sauid, Suhaila; Krishnan, Jagannathan; Huey Ling, Tan; Veluri, Murthy V. P. S.:**

Enhancement of oxygen mass transfer and gas holdup using palm oil in stirred tank bioreactors with xanthan solutions as simulated viscous fermentation broths.

🔗 In: BioMed Research International 2013, S. 409675.

🔗 Benchtop Bioreactor

**(2013) Pohle, D.; Beckmann, B.; Sanders, E. A.:**  
Robust Batch Cultivation Process for Recombinant Protein Production with *Escherichia coli* BL21 in a BIOSTAT® B Reactor.

Hg. v. Sartorius Stedim Biotech GmbH.

🔗 Benchtop Bioreactor, *E. coli*, Recombinant Protein

» Optimization and scale-up from microliter to pilot scales while maintaining the fed-batch cultivation mode of *Escherichia coli* cultures in a high-cell-density process producing recombinant proteins. Batch and fed-batch cultivations were performed in a BIOSTAT® Cplus (10 L) bioreactor.

**(2010) Siurkus, Juozas; Panula-Perälä, Johanna; Horn, Uwe; Kraft, Mario; Rimsele, Renata; Neubauer, Peter:**

Novel approach of high cell density recombinant bioprocess development: optimisation and scale-up from microliter to pilot scales while maintaining the fed-batch cultivation mode of *E. coli* cultures.

🔗 In: Microbial Cell Factories 9, S. 35.

🔗 Stainless Steel Bioreactor, *E. coli*, Upscaling



# Biopharma

**(2016) Landowski, Christopher P.; Mustalahti, Eero; Wahl, Ramon; Croute, Laurence; Sivasiddharthan, Dhinakaran; Westerholm-Parvinen, Ann et al.:**  
Enabling low cost biopharmaceuticals. High level interferon alpha-2b production in *Trichoderma reesei*.

🔗 In: *Microbial Cell Factories* 15 (1), S. 104.  
🔗 Benchtop Bioreactor, *T. reesei*, Interferon

» Significant barrier to insulin is affordability. Here improvements are described to key steps in the insulin production process in *Pichia pastoris* that reduce cost and time. The insulin precursor was produced in a 30 L Sartorius BIostat® Cplus using a simplified fed-batch fermentation protocol.

**(2016) Polez, Sulena; Origi, Domenico; Zahariev, Sotir; Guarnaccia, Corrado; Tisminetzky, Sergio G.; Skoko, Nataša; Baralle, Marco:**

A Simplified and Efficient Process for Insulin Production in *Pichia pastoris*.

🔗 In: *PloS one* 11 (12), S. e0167207.  
🔗 Stainless Steel Bioreactor, *P. pastoris*, Insulin

**(2016) Voulgaris, Ioannis; Chatel, Alex; Hoare, Mike; Finka, Gary; Uden, Mark:**

Evaluation of options for harvest of a recombinant *E. coli* fermentation producing a domain antibody using ultra scale-down techniques and pilot-scale verification.

🔗 In: *Biotechnology Progress* 32 (2), S. 382–392.  
🔗 Stainless Steel Bioreactor, *E. coli*, Antibody Fragment

» The growing demand for the anti-tumorous agent paclitaxel and the difficulty in increasing its production by genetic engineering has prompted a search for new sources of taxanes. It has been reported that taxanes can be extracted from the angiosperm *Corylus avellana* L. Our aim was to improve taxane production by scaling up the process from mL-level to benchtop bioreactors.

**(2015) Gallego, Ana; Imseng, Nicole; Bonfill, Mercedes; Cusido, Rosa M.; Palazon, Javier; Eibl, Regine; Moyano, Elisabeth:**

Development of a hazel cell culture-based paclitaxel and baccatin III production process on a benchtop scale.

🔗 In: *Journal of Biotechnology* 195, S. 93–102.  
🔗 Benchtop Bioreactor, Plant Cell Culture, Drug

**(2015) Gerke, Christiane; Colucci, Anna Maria; Giannelli, Carlo; Sanzone, Silvia;**

**Vitali, Claudia Giorgina; Sollai, Luigi et al.:**  
Production of a *Shigella sonnei* Vaccine Based on Generalized Modules for Membrane Antigens (GMMAs), 1790GAHB.

🔗 In: *PloS one* 10 (8), S. e0134478.  
🔗 Stainless Steel Bioreactor, *S. sonnei*, Vaccine

**(2015) Samazan, Frédéric; Rokbi, Bachra; Seguin, Delphine; Telles, Fabienne; Gautier, Valérie; Richarme, Gilbert et al.:**  
Production, secretion and purification of a correctly folded staphylococcal antigen in *Lactococcus lactis*.

🔗 In: *Microbial Cell Factories* 14, S. 104.  
🔗 Benchtop Bioreactor, *L. lactis*, Vaccine

**(2015) Xu, Li; Xiong, Wei; Yang, Jiang-Ke; Li, Jia; Tao, Xing-Wu:**

Recombinant *Escherichia coli* strains with inducible *Campylobacter jejuni* single domain hemoglobin CHb expression exhibited improved cell growth in bioreactor culture.

🔗 In: *PloS one* 10 (3), S. e0116503.  
🔗 Benchtop Bioreactor, *E. coli*, Recombinant Protein

**(2014) Aucamp, Jean P.; Davies, Richard; Hallet, Damien; Weiss, Amanda; Titchener-Hooker, Nigel J.:**

Integration of host strain bioengineering and bioprocess development using ultra-scale down studies to select the optimum combination: an antibody fragment primary recovery case study.

🔗 In: *Biotechnology and Bioengineering* 111 (10), S. 1971–1981.  
🔗 Benchtop | Stainless Steel Bioreactor, *E. coli*, Antibody Fragment

**(2014) Bawa, Zharain; Routledge, Sarah J.; Jamshad, Mohammed; Clare, Michelle; Sarkar, Debasmita; Dickerson, Ian et al.:**

Functional recombinant protein is present in the pre-induction phases of *Pichia pastoris* cultures when grown in bioreactors, but not shake-flasks.

In: *Microbial Cell Factories* 13, S. 127.  
🔗 Stainless Steel Bioreactor, *P. pastoris*, Recombinant Protein

» A single-use stirred bioreactor (BIostat® STR 50) was evaluated for microbial use determining the important process engineering parameters, using them to establish a mathematical model. It can be assumed that the mixing time is suitable for microbial applications. The determined  $k_{La}$ , and consequently the efficiency of oxygen transfer is significantly improved.

**(2014) Dreher, Thomas; Walcarius, Bart; Husemann, Ute; Klingenberg, Franziska; Zahnnow, Christian; Adams, Thorsten et al.:**

Microbial high cell density fermentations in a stirred single-use bioreactor.

🔗 In: *Advances in Biochemical Engineering | Biotechnology* 138, S. 127–147.  
🔗 Single-Use Bioreactor, *E. coli* | *P. pastoris*

» In this study, friend murine leukemia Virus (FMuLV) was used, a well characterized murine retrovirus [13], and a monoclonal Ab clone 48 (mAb48) recognizing envelope glycoprotein (gp70) of F-MuLV. The parental mAb48 was taken to provide antiviral specificity and to establish a scFv which FH-derived modules were coupled.

**(2014) Huber, Georg; Bánki, Zoltán; Kunert, Renate; Stoiber, Heribert:**

Novel bifunctional single-chain variable antibody fragments to enhance virolysis by complement. Generation and proof-of-concept.

🔗 In: *BioMed Research International* 2014, S. 971345.  
🔗 Benchtop Bioreactor, *P. pastoris*, Antibody Fragment

» The identification of optimal expression conditions for state-of-the-art production of pharmaceutical proteins is a very time-consuming and expensive process. In this report a method for rapid and reproducible optimization of protein expression in an in-house designed small-scale BIOSTAT® multi-bioreactor plant is described.

**(2013) Ferreira, Guilherme; Jungbauer, Alois; Bizarro, C. V.; Volpato, G.; Nunes, C. P. et al.:** Designing a fully automated multi-bioreactor plant for fast DoE optimization of pharmaceutical protein production.

🔗 In: *Biotechnology Journal* 8 (6), S. 634–635.

🔗 Benchtop Bioreactor, *P. pastoris*

**(2013) Roth, G.; Nunes, J. E. S.; Rosado, L. A.; Bizarro, C. V.; Volpato, G.; Nunes, C. P. et al.:** Recombinant *Erwinia carotovora* I-asparaginase II production in *Escherichia coli* fed-batch cultures.

🔗 In: *Braz. J. Chem. Eng.* 30 (2), S. 245–256.

🔗 Benchtop Bioreactor, *E. coli*, Recombinant Protein

**(2012) Braun, Andreas; Geier, Martina; Bühler, Bruno; Schmid, Andreas; Mauersberger, Stephan; Glieder, Anton:**

Steroid biotransformations in biphasic systems with *Yarrowia lipolytica* expressing human liver cytochrome P450 genes.

🔗 In: *Microbial Cell Factories* 11, S. 106.

🔗 Stainless Steel Bioreactor, *Y. lipolytica*, Recombinant Protein

» Scale up and development of an efficient large scale *Hansenula polymorpha* fermentation process for the production of a modified, non-glycosylated, biologically active rSAK, a novel fibrinolytic recombinant staphylokinase, production is described.

**(2012) Moussa, Manal; Ibrahim, Mahmoud; El Ghazaly, Maria; Rohde, Jan; Gnoth, Stefan; Anton, Andreas et al.:**

Expression of recombinant staphylokinase in the methylotrophic yeast *Hansenula polymorpha*.

🔗 In: *BMC Biotechnology* 12, S. 96.

🔗 Benchtop | Stainless Steel Bioreactor, *H. polymorpha*, Recombinant Protein

**(2012) Peng, Yong Y.; Howell, Linda; Stoichevska, Violet; Werkmeister, Jerome A.; Dumsday, Geoff J.; Ramshaw, John A. M.:**

Towards scalable production of a collagen-like protein from *Streptococcus pyogenes* for biomedical applications.

🔗 In: *Microbial Cell Factories* 11, S. 146.

🔗 Benchtop Bioreactor, *E. coli*, Recombinant Protein

**(2011) Das, Krishna M. P.; Banerjee, Sampali; Shekhar, Nivedita; Damodaran, Karpagavalli; Nair, Rahul; Somani, Sandeep et al.:**

Cloning, soluble expression and purification of high yield recombinant hGMCSF in *Escherichia coli*.

🔗 In: *International Journal of Molecular Sciences* 12 (3), S. 2064–2076.

🔗 Benchtop Bioreactor, *E. coli*, Cytokine

» It is demonstrated that high cell density cultivation and recombinant protein production with *Escherichia coli* in a rocking-motion-type bioreactor is possible.

**(2010) Glazyrina, Julia; Materne, Eva-Maria; Dreher, Thomas; Storm, Dirk; Junne, Stefan; Adams, Thorsten et al.:**

High cell density cultivation and recombinant protein production with *Escherichia coli* in a rocking-motion-type bioreactor.

🔗 In: *Microbial Cell Factories* 9, S. 42.

🔗 Single-Use Bioreactor, *E. coli*, Recombinant Protein

**(2008) Burns, Terry; Greller, Gerhard; Ullah, Millie; Adams, Thorsten:**

Evaluation of the BIOSTAT® CultiBag RM for Microbial seed stage Fermentation.

Hg. v. Sartorius Stedim Biotech; Wyeth Vaccines.

🔗 Single-Use Bioreactor, *E. coli*, Recombinant Protein



# Industrial Biotechnology

(2017) Salar–García, María J.; Bernal, Vicente; Pastor, José M.; Salvador, Manuel; Argandoña, Montserrat; Nieto, Joaquín J. et al.:

Understanding the interplay of carbon and nitrogen supply for ectoines production and metabolic overflow in high density cultures of *Chromohalobacter salexigens*.

🔗 In: Microbial Cell Factories 16 (1), S. 23.  
🔗 Benchtop Bioreactor, *C. salexigens*, Renewable Chemicals

(2017) Sánchez Mainar, María; Matheuse, Frédéric; Vuyst, Luc de; Leroy, Frédéric:

Effects of glucose and oxygen on arginine metabolism by coagulase-negative staphylococci.

🔗 In: Food Microbiology 65, S. 170–178.  
🔗 Stainless Steel Bioreactor, *S. carnosus*/*S. pasteurii*

(2016) Fleige, Christian; Meyer, Florian; Steinbüchel, Alexander:

Metabolic Engineering of the Actinomycete *Amycolatopsis* sp. Strain ATCC 39116 towards Enhanced Production of Natural Vanillin.

🔗 In: Applied and Environmental Microbiology 82 (11), S. 3410–3419.  
🔗 Benchtop Bioreactor, *E. coli*, Flavour

(2016) Gao, Cuijuan; Yang, Xiaofeng; Wang, Huaimin; Rivero, Cristina Perez; Li, Chong; Cui, Zhiyong et al.:

Robust succinic acid production from crude glycerol using engineered *Yarrowia lipolytica*.

🔗 In: Biotechnology for Biofuels 9 (1), S. 179.  
🔗 Benchtop Bioreactor, *Y. lipolytica*, Renewable Chemicals

(2016) Liguori, Rossana; Ventorino, Valeria; Pepe, Olimpia; Faraco, Vincenza:

Bioreactors for lignocellulose conversion into fermentable sugars for production of high added value products.

🔗 In: Applied Microbiology and Biotechnology 100 (2), S. 597–611.  
🔗 Benchtop Bioreactor, *A. donax*, Renewable Chemicals

» With the aim to initiate the characterization of novel waxy compounds, the optimization of a fed-batch microbial HCD fermentation process in a BIOSTAT® D-DCU (50 L) using *Escherichia coli* for an up-scaled oil production of multimethyl-branched long-chain esters is described.

(2016) Menendez-Bravo, Simón; Roulet, Julia; Sabatini, Martín; Comba, Santiago; Dunn, Robert; Gramajo, Hugo; Arabolaza, Ana:

High cell density production of multimethyl-branched long-chain esters in *Escherichia coli* and determination of their physicochemical properties.

🔗 In: Biotechnology for Biofuels 9, S. 215.  
🔗 Stainless Steel Bioreactor, *E. coli*, Renewable Chemicals

(2016) Wu, Pengfei; Wang, Genyu; Wang, Gehua; Børresen, Børre Torc; Liu, Hongjuan; Zhang, Jianan:

Butanol production under microaerobic conditions with a symbiotic system of *Clostridium acetobutylicum* and *Bacillus cereus*.

🔗 In: Microbial Cell Factories 15, S. 8.  
🔗 Benchtop Bioreactor, *C. acetobutylicum* | *B. cereus*, Renewable Chemicals

» 1,2,4-Butanetriol (BT) is a valuable chemical with extensive applications in many different fields. The traditional chemical routes to synthesize BT suffer from many drawbacks. Engineered *Escherichia coli* has a promising prospect for the large-scale production of BT.

(2015) Cao, Yujin; Niu, Wei; Guo, Jiantao; Xian, Mo; Liu, Huizhou:

Biotechnological production of 1,2,4-butanetriol. An efficient process to synthesize energetic material precursor from renewable biomass.

🔗 In: Scientific Reports 5, S. 18149.  
🔗 Benchtop Bioreactor, *E. coli*, Renewable Chemicals

(2015) Liu, Bo; Shi, DanYang; Chang, ShaoHong; Gong, Xin; Yu, YunZhou; Sun, ZhiWei; Wu, Jun:

Characterization and immunological activity of different forms of recombinant secreted Hc of botulinum neurotoxin serotype B products expressed in yeast.

🔗 In: Scientific Reports 5, S. 7678.  
🔗 Benchtop Bioreactor, *P. pastoris*, Toxin

(2015) Mao, Ruoyu; Teng, Da; Wang, Xiumin; Zhang, Yong; Jiao, Jian; Cao, Xintao; Wang, Jianhua:

Optimization of expression conditions for a novel NZ2114-derived antimicrobial peptide-MP1102 under the control of the GAP promoter in *Pichia pastoris* X-33.

🔗 In: BMC Microbiology 15, S. 57.  
🔗 Benchtop Bioreactor, *P. pastoris*, Antimicrobial

(2015) Sato, Shunsuke; Andreeßen, Björn; Steinbüchel, Alexander:

Strain and process development for poly(3HB-co-3HP) fermentation by engineered *Shimwellia blattae* from glycerol.

In: AMB Express 5, S. 18.  
DOI: 10.1186/s13568-015-0105-8.  
🔗 Benchtop Bioreactor, *S. blattae*, Renewable Chemicals

(2015) Przystałowska, Hanna; Zeyland, Joanna; Ko mider, Alicja; Szalata, Marlena; Słomski, Ryszard; Lipi ski, Daniel:

1,3-Propanediol production by *Escherichia coli* using genes from *Citrobacter freundii* atcc 8090.

🔗 In: Acta Biochimica Polonica 62 (3), S. 589–597.  
🔗 Benchtop Bioreactor, *E. coli*, Renewable Chemicals

» Demonstrated the possibility to regulate fatty acid composition by using metabolic engineering approaches. FFAs produced by the recombinant *Escherichia coli* strain consisted of high-level MUFAs and biodiesel manufactured from these fatty acids would be more suitable for current diesel engines.

(2014) Cao, Yujin; Liu, Wei; Xu, Xin; Zhang, Haibo; Wang, Jiming; Xian, Mo:

Production of free monounsaturated fatty acids by metabolically engineered *Escherichia coli*.

🔗 In: Biotechnology for Biofuels 7, S. 59.  
🔗 Benchtop Bioreactor, *E. coli*, Renewable Chemicals

» The present work describes high production of enterocin A through codon optimization strategy and its character study. The EntA was successfully expressed in *Pichia pastoris*, and this feasible system could pave the pre-industrial technological path of rEntA as a competent candidate as an anti-*Listeria* agent.

**(2014) Hu, Xiaoyuan; Mao, Ruoyu; Zhang, Yong; Teng, Da; Wang, Xiumin; Di Xi et al.:**

Biotechnical paving of recombinant enterocin A as the candidate of anti-*Listeria* agent.

🔗 In: BMC Microbiology 14, S. 220.

🔗 Benchtop Bioreactor, *P. pastoris*, Antibiotic

**(2014) Illmer, Paul; Reitschuler, Christoph; Wagner, Andreas Otto; Schwarzenauer, Thomas; Lins, Philipp:**

Microbial succession during thermophilic digestion. The potential of *Methanosarcina* sp.

🔗 In: PLoS one 9 (2), S. e86967.

🔗 Benchtop Bioreactor, *M. thermophila*

**(2014) Szymanowska-Powalowska, Daria; Biała, Wojciech:**

Scale-up of anaerobic 1,3-propanediol production by *Clostridium butyricum* DSP1 from crude glycerol.

🔗 In: BMC Microbiology 14, S. 45.

🔗 Stainless Steel Bioreactor, *C. butyricum*, Upscaling

**(2014) Várnai, Anikó; Tang, Campbell; Bengtsson, Oskar; Atterton, Andrew; Mathiesen, Geir; Eijnsink, Vincent G. H.:**

Expression of endoglucanases in *Pichia pastoris* under control of the GAP promoter.

🔗 In: Microbial Cell Factories 13 (1), S. 57.

🔗 Stainless Steel Bioreactor, *P. pastoris*, Enzyme

**(2013) Cimini, Donatella; Rosa, Mario de; Carlino, Elisabetta; Ruggiero, Alessandro; Schiraldi, Chiara:**

Homologous overexpression of RfaH in *E. coli* K4 improves the production of chondroitin-like capsular polysaccharide.

🔗 In: Microbial Cell Factories 12, S. 46.

🔗 Stainless Steel Bioreactor, *E. coli*, Renewable Chemicals

**(2013) Otero, José Manuel; Cimini, Donatella; Patil, Kiran R.; Poulsen, Simon G.;**

**Olsson, Lisbeth; Nielsen, Jens:** Industrial systems biology of *Saccharomyces cerevisiae* enables novel succinic acid cell factory.

🔗 In: PLoS one 8 (1), S. e54144.

🔗 Benchtop Bioreactor, *S. cerevisiae*, Renewable Chemicals

**(2013) Yujin Cao; Mo Xian; Huibin Zou; Haibo Zhang:**

Metabolic Engineering of *Escherichia coli* for the Production of Xylonate 8 (7).

🔗 In: PLoS one 8 (7), S. e67305.

🔗 Benchtop Bioreactor, *E. coli*, Renewable Chemical

**(2012) Ignacio Poblete-Castro; Isabel F Escapa; Christian Jäger; Jacek Puchalka; Carolyn Ming Chi Lam; Dietmar Schomburg et al.:**

The metabolic response of *P. putida* KT2442 producing high levels of polyhydroxyalkanoate under single- and multiple-nutrient-limited growth: Highlights from a multi-level omics approach // Salidiuretic action of the calcium antagonist nifedipine in dogs.

🔗 In: Microbial Cell Factories 2012 // 336 (34 // 5), S. 572–577.

🔗 Benchtop Bioreactor, *P. putida*, Renewable Chemicals

**(2012) Luna-Flores, Carlos; Nielsen, Lars; Marcellin, Esteban:**

Propionic acid production of *Propionibacterium acidipropionici* in a BIOSTAT<sup>®</sup> A (4).

Hg. v. Sartorius Stedim Biotech GmbH.

🔗 Benchtop Bioreactor, *P. acidipropionici*, Renewable Chemicals

**(1999) Leroy, Frédéric; Vuyst, Luc de:**

The Presence of Salt and a Curing Agent Reduces Bacteriocin Production by *Lactobacillus sakei* CTC 494, a Potential Starter Culture for Sausage Fermentation.

🔗 In: Applied and Environmental Microbiology 65 (12), S. 5350–5356.

🔗 Stainless Steel Bioreactor, *L. sakei*



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