



Modeling and control of main metabolism in Lactic Acid Bacteria

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | LAB: Microbial factories | Lactic acid bacteria (LAB) are widely used in industrial manufacture of fermented foods and regarded as cell factories for production of pharmaceutical and food products. *Lactococcus lactis*, due to its small genome size and simple metabolism, has been considered a model organism for strain design strategies and metabolic engineering. Metabolic modeling provides a platform to conduct in silico experiments with biotechnological and biomedical applications. With a fully detailed kinetic model, time-course simulations, response to different input can be predicted and system controllers can be designed. For *L. lactis*, the dynamic models for the central carbon metabolism have already been constructed. However, these models lack our compound of interest and need to be extended. Provided the topology of pathway and kinetic parameters, a dynamic model that describes the glycolytic pathway in *L. lactis* is reconstructed using convenience kinetics. This model is now improved by estimating the parameters using in vivo Nuclear Magnetic Resonance (NMR) data fitting. | Format: Paperback | Language/Sprache: english | 104 pp.

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