

Analysis and Design of Stimulus Response Curves of E. coli.

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Abstract

Metabolism and signalling are tightly coupled in bacteria. Combining several theoretical approaches, a core model is presented that describes transcriptional and allosteric control of glycolysis in *Escherichia coli*. Experimental data based on microarrays, signalling components and extracellular metabolites are used to estimate kinetic parameters. A newly designed strain was used that adjusts the incoming glucose flux into the system and allows a kinetic analysis. Based on the results, prediction for intracellular metabolite concentrations over a broad range of the growth rate could be performed and compared with data from literature.

Beteiligte Forschungseinheiten

[Microbiome Dynamics](#) [Gianni Panagiotou](#) [Mehr erfahren](#)

Leibniz-HKI-Autor*innen



Wolfgang Schmidt-Heck

[Details](#)

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