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Title (English) SmartCell – a general framework for whole-cell modeling and simulation		
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Abstract SmartCell is a framework for modeling and simulation of biological processes in whole cells. Modeling is performed in an XML-based model description format, derived from biological concepts, that has been developed as part of the framework. The simulation algorithm is based on mesoscopic kinetics, and supports diffusion and localisation of components in the cell. This work presents a first implementation of the SmartCell framework and an initial assessment of its modeling capacity and predictive power. The general conclusion is that SmartCell is highly accurate for modeling reaction kinetics and diffusion, but suffers from speed limitations for complex models including processes occurring on different time-scales.		
Keywords whole-cell modeling, computer simulation, mesoscopic, bacterial chemotaxis		
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