

Title: Protein-ligand binding kinetics

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Encyclopedia The importance of binding kinetics in terms of residence time and on-rate in drug discovery has been broadly accepted in the past few years. Furthermore, evidence has accumulated that the optimal binding mechanism of a drug to its target molecule is related to physiological efficacy as well as selectivity and thus drug safety. Homogeneous fluorescence-based binding assays have been shown to enable high throughput kinetics requiring only small amounts of protein. These assays can be used to elucidate even complex mechanisms of molecular recognition. A generalized approach is proposed that combines high quality kinetic and equilibrium data in an Integrated Global Fit analysis yielding the most probable binding mechanism. Arguments will be provided for the thesis that the relationship between quantitative kinetic and mechanistic information and chemical structures of active substances will serve as a valuable tool for drug optimization.

Biography

Franz-Josef Meyer-Almes has completed his PhD at the age of 28 years from University of Goettingen. He has 10 years experiences in biotech and pharma companies. He is Professor for Physical Biochemistry and has published more than 40 papers in reputed journals and holds more than 10 patents and patent applications.

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