Statistical model for receptor-ligand binding thermodynamics.

Figge MT (2002) Statistical model for receptor-ligand binding thermodynamics. *Phys Rev E Stat Nonlin Soft Matter Phys* 66(6 Pt 1), 061901.

Abstract

We present a simple statistical model to describe receptor-ligand binding in terms of the number of binding contact residues and the number of separate binding regions as a function of the temperature. The fact that the binding depends on various random factors is modeled by a distribution of local binding energies and we take into account that the interaction between receptor and ligand is only of significance for the activation of the receptor if the total binding energy exceeds a threshold energy. We interpret our results in the light of both experimentally observed antibody-antigen binding configurations and theoretical studies in the zero-temperature limit.

Beteiligte Forschungseinheiten

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