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【946】 Amino Acids Effect on Protein-Protein Interactions

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Despite being used for decades as stabilizers, amino acids (AAs) remain mysterious components of many medical and biological formulations. In this talk, I show that AAs have a general ability to stabilize weakly interacting proteins in solution. By precisely measuring the second osmotic virial coefficient we demonstrate that AAs are able to modulate protein interactions at mM concentrations. For cross-interactions we show a detectable change in interaction strength at protein: AA stoichiometric ratios as low as 1:1. We observe one order of magnitude change in binding affinity between proteins in presence of 10 mM AAs. Interestingly, this modulation of protein interactions by AAs does not alter the protein's secondary structure.

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