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Thermodynamic studies on the interaction between sodium n-dodecyl sulphate and histone H2B.

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Abstract
The thermodynamic parameters for the interaction of the anionic detergent sodium n-dodecyl sulphate (SDS) with H2B at pH 3.2, 6.4 and 10 have been measured at 27 degrees C and 37 degrees C by equilibrium dialysis to determine the Gibbs energies of detergent binding. The data have been used to obtain the enthalpy of interaction from the temperature dependence of the equilibrium constants from the Van't Hoff relation. The enthalpy of interaction between H2B and SDS is endothermic at pH 3.2, 6.4 and 10. The shapes of the enthalpy curves at pH 3.2 and 10 show some small exothermic contribution which probably indicates folding of H2B. The interactions of H2B-SDS are dominated by the increase in entropy on detergent binding. The larger negative free energy, enthalpy and entropy changes at pH 6.4 are consistent with greater denaturation relative to pH 3.2 and 10.

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