**Investigation of the transport and metabolic targeting of bile salts**

**by human ileal bile acid-binding protein using an integrated biophysical approach**

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During the first phase of our collaboration we have been focusing on the thermodynamic and kinetic aspects of unfolding in human I-BABP, a process thought to have a role in metabolic targeting of bile salts. Both the NMR spectroscopic investigation of thermal denaturation and the stopped-flow fluorescence analysis of chemical renaturation indicate a multistate process. However, residue-specific NMR measurements reveal a non-uniform temperature response along the sequence. According to NMR, fluorescence, and DSC data, thermal unfolding takes place between 53-63°C. Comparison of the enthalpy of unfolding derived from DSC and NMR data suggests that besides fast-limit exchange, slow conformational transitions have a contribution to the thermodynamics of unfolding. Investigation of the effect of ligands and model membranes on hI-BABP unfolding is in progress.