**W0021**

**Wide Angle X-ray Solution Scattering As a Probe of Ligand-Induced Conformational Changes in Proteins.**
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The binding of a function-disruptive ligand almost always induces some type of structural change in the protein target. Unfortunately, most binding assays are sensitive to limited classes of structural change- circular dichroism is insensitive to changes that do not alter protein secondary structure, whereas small angle x-ray scattering is sensitive only or mostly to changes in radius of gyration. We have demonstrated that wide angle x-ray scattering from apo and ligand-bound proteins in solution provides the means to identify ligand-induced changes in secondary, tertiary and quaternary structure. The speed and accuracy of data acquisition combined with the broad range of label-free targets and binding conditions achievable with this technique indicate that WAXS is well suited as a moderate-throughput assay in the detection and analysis of protein-ligand interactions.