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(54) **Title**: METHODS FOR DETERMINING LIGAND BINDING TO A TARGET PROTEIN USING A THERMAL SHIFT ASSAY

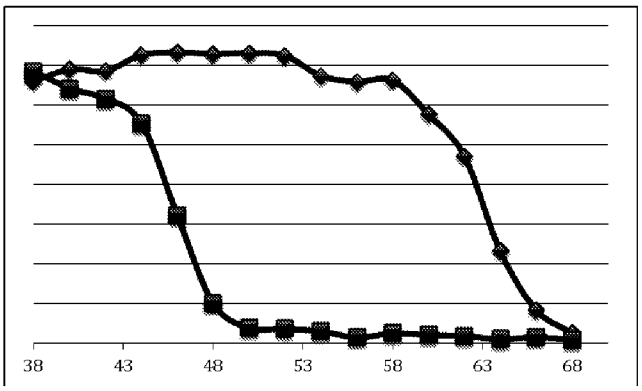


Figure 5

(57) **Abstract**: The invention is directed to a method of determining whether a non-purified sample contains a target protein bound to a ligand of interest comprising the steps of: a) exposing said non-purified sample to a temperature which is capable of causing or enhancing precipitation of the unbound target protein to a greater extent than it is capable of causing or enhancing precipitation of the target protein bound to said ligand; b) processing the product of step a) in order to separate soluble from insoluble protein; and c) analysing either or both the soluble and insoluble protein fractions of step b) for the presence of target protein, wherein said target protein is not detected on the basis of enzymatic activity of a tag, peptide, polypeptide or protein fused thereto. Particularly, the invention may be used to determine whether drugs can bind to their protein targets in samples derived from patients to ascertain whether a certain drug can be used in a therapy for that patient. Additionally, the invention is directed to an instrument for use in the methods of the invention and use of a kit in the methods of the invention comprising an antibody and/or a non-protein fusion tag.

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