

## Poster-P18

### Differential Scanning Calorimetry : As a Complementary Tool for Proteomics

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#### Abstract

The aim of medicine may be said to be the application of medical knowledge to the riddance, reduction, or alleviation of the patient's disease. For this purpose doctors need to stop disease progress in early stages, so early diagnosis of the disease has a prime importance. Biomarkers have opened new sights to physicians. Detection of biomarkers has been always a problem to be solved. Although modern methods such as proteomics are useful, they are expensive and time-consuming and also are not capable of detection of complexes and protein complications. Differential scanning calorimeter (DSC) is unique instrument that can directly determine the thermodynamic parameters of biomolecules. Recently DSC has been used to diagnosis of some diseases. According to the literatures, DSC does not have those limitations. This powerful technique is a rapid, somehow cheaper and was used for early diagnosis of diseases. DSC thermogram recognizes a specific profile for each disease. The changes in thermogram pattern induced from the concentration of the major plasma proteins or from interactions of ligands, such as small molecules or peptides with proteins. In this report the theoretical and practical aspects of DSC application in protein detections in different diseases will be discussed.

**Keywords:** DSC, Diagnosis, Plasma, Thermogram