

## Accepted Manuscript

Title: Differential Proteome Analysis of Diabetes Mellitus Type 2 and its Pathophysiological Complications

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PII: S1871-4021(18)30225-X  
DOI: <https://doi.org/10.1016/j.dsx.2018.06.009>  
Reference: DSX 1019



To appear in: *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*

Please cite this article as: Sohail W, Majeed F, Afroz A, Differential Proteome Analysis of Diabetes Mellitus Type 2 and its Pathophysiological Complications, *Diabetes and Metabolic Syndrome: Clinical Research and Reviews* (2018), <https://doi.org/10.1016/j.dsx.2018.06.009>

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# Differential Proteome Analysis of Diabetes Mellitus Type 2 and its Pathophysiological Complications.

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## Abstract:

The prevalence of Diabetes Mellitus Type 2 (DM 2) is increasing every passing year due to some global changes in lifestyles of people. The exact underlying mechanisms of the progression of this disease are not yet known. However recent advances in the combined omics more particularly in proteomics and genomics have opened a gateway towards the understanding of predetermined genetic factors, progression, complications and treatment of this disease. Here we shall review the recent advances in proteomics that have led to an early and better diagnostic approaches in controlling DM 2 more importantly the comparison of structural and functional protein biomarkers that are modified in the diseased state. By applying these advanced and promising proteomic strategies with bioinformatics applications and bio-statistical tools the prevalence of DM 2 and its associated disorders i-e nephropathy and retinopathy are expected to be controlled.

**Key words:** differential proteomics; diabetes mellitus type 2; obesity; biomarkers; proteomic diagnostics; differentially displayed proteins.

## Abbreviations:

<b>DM 2</b>	diabetes mellitus type 2
<b>MS</b>	mass spectrometry
<b>2DGE</b>	2 dimensional gel electrophoresis
<b>SDS-PAGE</b>	sodium dodecyl sulfate polyacrylamide gel electrophoresis
<b>OGTT</b>	oral glucose tolerance test
<b>HbA<sub>1c</sub></b>	glycated hemoglobin A <sub>1c</sub>
<b>HPLC</b>	high performance liquid chromatography

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