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## **Proteomics in Drug Discovery**

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The study of the protein complement of the genome, or proteome, represents an important new avenue for drug discovery. Proteomics research aims to quantify and characterize all of the expressed proteins in a biological system, and to determine the effect of various perturbations of the system on the expressed proteins. The resulting protein expression data can then be used to help discover and characterize new drug targets, evaluate the mechanism of action of lead compounds, and investigate potential toxicity of novel therapeutic agents. A critical aspect of proteomics is protein identification. Mass spectrometry enables rapid identification and characterization of expressed proteins and bridges the gap between genome and proteome. A flexible, high performance protein identification system based on commercially available instrumentation has been assembled and implemented. The performance of the system, including validation with protein standards and its application to real world problems in drug discovery will be described.