

Targeted LCMS Analyses in Drug Discovery: Quantitative Profiling of Endogenous Components in Biological Matrices for Efficacy Evaluation, Activity Screening and PD Marker Determination

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LCMS assays are well established for xenobiotic applications, such as metabolite identification and quantitative bioanalysis. Extending LCMS approaches into the large and complex area of endogenous small molecule analysis offers a unique opportunity to advance drug discovery by identification and quantitation of endogenous markers.

Endogenous markers are diverse in chemical nature, ranging from small amino acids and sugars to lipids or peptides. Assay protocols vary depending on the disease model, biological matrix, expected endogenous levels, etc. Utilization of LCMS assays for endogenous markers are applicable from one time proof-of-concept investigations or quick screens to extensive long-term primary or secondary assays that drive SAR optimization. Presented here are LCMS applications used as front-line assays to support target validation, evaluation of PD effects, efficacy, toxicology profiling, etc. in drug discovery.