

# METHOD DEVELOPMENT FOR PRECLINICAL BIOANALYTICAL SUPPORT

MASOOD KHAN<sup>1</sup> AND NAIDONG WENG<sup>2</sup>

<sup>1</sup>*Covance Laboratories Inc., Chantilly, Virginia*

<sup>2</sup>*Johnson & Johnson Pharmaceutical Research & Development, Raritan, New Jersey*

## Contents

- 1 Preclinical Bioanalytical Support Using Liquid Chromatography with Tandem Mass Spectrometers (LC-MS/MS)
  - 1.1 Introduction
  - 1.2 Regulatory Requirement
  - 1.3 Batch Failure Rate
  - 1.4 Narrowing the Gap for Incurred Sample Analysis
  - 1.5 Control Animal Samples
  - 1.6 Metabolic Selectivity Coverage During Drug Development
  - 1.7 Method Development Strategy
  - 1.8 Method Automation Strategy: From Preclinical to Clinical
  - 1.9 Matrix Effects and Recovery
  - 1.10 Effect of Dosing Vehicles
  - 1.11 Carry-over and Contamination
  - 1.12 Misconception About Stable Isotope-Labeled Internal Standard
  - 1.13 Troubleshooting Strategy
  - 1.14 Conclusion
- 2 Preclinical Bioanalytical Support Using Ligand-Binding Assay
  - 2.1 Introduction
  - 2.2 Ligand-Binding Assay Technology
  - 2.3 Using Ligand-Binding Assay in a GLP Environment
  - 2.4 Ligand-Binding Assay Specific Challenges
  - 2.5 Responding to the Challenge of Ligand-Binding Assay