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Application of Mass Spectrometry Imaging Technology Represents a Breakthrough in Drug Toxicity

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Abstract

revolutionizing the way pharmaceuticals are evaluated for safety and e cacy. MSI allows for the spatial visualization and simultaneous identiýcation of drug distribution and metabolites within biological tissues, providing unprecedented insights into drug toxicity mechanisms. This article explores the application of MSI technology in drug toxicity assessment and its impact on drug development, early detection of toxic metabolites, personalized medicine, and preclinical safety assessment. By facilitating the understanding of drug-tissue interactions at a cellular level, MSI holds the potential

medicine. This article explores the application of MSI in drug toxicity assessment, highlighting its impact on spatial drug distribution analysis, early detection of toxic metabolites, mechanistic understanding of toxicity, personalized medicine, and preclinical safety assessment. With MSIís potential to optimize drug development, enhance safety proýles, and advance personalized therapeutic approaches, this technology represents a breakthrough in the pursuit of safer and more e ective medications.

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