



Novel Methods of Drug Testing

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Editorial Note

I am delighted to introduce the Scitechnol Journal of Forensic Toxicology & Pharmacology (JFTP) Volume 9 Issue 2. JFTP provides an exciting scope to consider new trends in forensic science. It is the branch of medicine that applies the methods of the medical sciences to legal problems regarding drug testing. Reconstruction of a crime from the autopsy findings has been challenge to forensic pathologists.

The wide range of forensic science represents an increase in the publishing activity like novel methods of how to test drugs. Forensic science focuses on determining why somebody died due to intake of drugs. Method of drug testing is the application of medical knowledge to a criminal investigation, particularly in establishing time and cause of death.

IMS (Ion-mobility spectrometry) instruments do not require a trained operator. They can be used to quickly analyze a sample identification that requires a database of known molecules to compare sample against. The process of building database would require trained chemist using another technique or a standard. Once built database could be referenced from any instrument without additional technical help. Quantification is possible when using internal standards or prebuilt methods. IMS (Ion-mobility spectrometry) is regularly used by law enforcement agencies at airports to detect narcotics and

explosives. Minimal maintenance, ease of use by non-technical personnel, low cost, fast and accurate determination, minimal cost of consumables, and robust methodologies make IMS one the best choices for drug identification.

IMS instruments operate with an electric field that provides space separation, but some IMS instruments also operate with drift gas flow which provides also a temporal separation. This review summarizes current IMS instrumentation. IMS techniques have received an increased interest as new instrumentation has become available to be coupled with mass spectrometry (MS). Each of eight types of IMS instruments reviewed it is mentioned whether they can be hyphenated with MS and whether they are commercially available. The current review article is followed by a companion review article which details IMS hyphenated techniques (mainly gas chromatography and mass spectrometry) and the factors that make the data from an IMS device change as function of device parameters and sampling conditions. The reviews will provide reader with an insightful view of the main characteristics and aspects of IMS technique.

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