



K15 Rapid Screening of Psychotropic Drugs, Metabolites in Body Fluid and in Adulterated Liquor by Ion Mobility Spectrometry

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Rapid analysis and detection of diazepam and its metabolite in body fluids, which is of forensic importance, could be used in direct case/criminal examinations in forensic laboratories.

The misuse of psychotropic drugs by people is a common phenomenon. Diazepam is a drug belonging to the class of 1,4-Benzodiazepines. Its extensive use in therapeutics as a sedative, hypnotic, tranquilizer and muscle relaxant drug has also led to its misuse as a street tranquilizer and liquor adulterant. Owing to the synergetic action of diazepam when it is taken in combination with alcohol, it has recently come to replace chloral hydrate as an adulterant in alcoholic liquors. Diazepam is covered under the narcotic drugs and psychotropic substances act (2), and its use in alcoholic liquors is prohibited. Samples of such abuse cases are frequently submitted to labs for identification of tranquilizer with the aim to give correct treatment to the patient and law enforcement agencies to reach at the conclusion and putting the case to courts of law. The law enforcement agencies in the field are finding it difficult to identify diazepam and its over dosage in liquor adulterant cases on the spot and therefore have to necessarily send the exhibits of body fluids and the adulterated country liquor bottles on the spot and therefore have necessarily send the exhibits to forensic science laboratory for analysis. A wide literature survey was conducted on the field identification of diazepam. Diazepam can be detected using Cobalt (II) thiocyanate acidified with orthophosphoric acid resulting in the formation of intense emerald green colour. All this exercise requires rapid, sensitive and accurate analysis by the analyst.

Keeping this in view, the authors have developed and described the method based on "Ion Mobility Spectrometry" to detect diazepam and its major metabolite Desmethyl diazepam (nordiazepam) which is present in liver, kidney of viscera of the dead body. The Urgent need for the development of simple, presumptive field and screening techniques useful for law enforcement officers and mobile forensic science laboratories, for the detection of diazepam and its metabolite. The technique "Ion Mobility Spectrometry" has been developed and detected in the form of Plasmagram which was reported in this communication. It can be used for the identification of various drugs such as Cocaine, Heroin, methaqualone, etc., as well.

Tranquilizer, Ion Mobility Spectrometry, Diazepam