

The Extraction of Benzodiazepines from Biological Matrices: A Review †

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Abstract: Tranquillizers are a group of drugs that produce anti-anxiety, anti-depressant, and sedative effects. These drugs also help to reduce tension and fear. They are broadly classified into major and minor tranquilizers. Benzodiazepines are a type of tranquilizers that are pharmaceutically prescribed by clinicians for short-term use. The long-term use of these drugs has led to the development of tolerance and dependence. Benzodiazepines act on the GABA neurotransmitter receptors, thereby reducing the activity of the brain. They are, therefore, also known as Central Nervous System depressants. An increasing number of cases have been reported on the abuse of such drugs. These drugs are administered by spiking them in food or drinks such that they are not noticed by the victim. Cases have been reported where offenses such as sexual assault, homicide, and robbery have been committed post administration of these drugs. Suicidal and recreational /accidental administration of benzodiazepines is also observed. Tranquilizers have been misused in the illegal poaching and hunting of animals. Various extraction methods have been studied for the extraction of these drugs from the samples. These techniques include solvent extraction, solid-phase extraction, and solid-phase micro-extraction. The present paper has reviewed the various extraction methods used for the isolation of benzodiazepines from biological matrices.

Keywords: tranquillizers; Benzodiazepines; solvent extraction; solid-phase extraction; solid-phase microextraction.

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Conflicts of Interest

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