



## Role of Forensic Toxicology in Drug Analysis

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### Description

The study of biological samples for the presence of poisons by including drugs is known as forensic toxicology. The type of drugs present in a person and whether their quantity is within the range of a therapeutic dosage or above the threshold for harm can both be determined by the toxicology report. The field of forensic toxicology has expanded to encompass drug and alcohol testing for employers and law enforcement officials, by testing animal samples for environmental criminal investigators, as well as testing for date rape drugs and performance for enhancing pharmaceuticals.

Toxicology is used in forensic toxicology, along with other fields including clinical chemistry, analytical chemistry, and pharmacology, to support medical and legal inquiries into drug overdoses, poisonings, and other fatalities. A forensic toxicologist studies into how drugs and alcohol affect behaviour and performance in people as well as the legal repercussions of drug usage. Investigations into human performance include those into alcohol consumption, vehicular assault and homicide, and acts when drugs were used as facilitation.

Forensic toxicology is main concerns are the acquisition and interpretation of results rather than the legal outcome of the toxicological study or the equipment used. Various types of samples can be subjected to a toxicological analysis. The context of an inquiry, in particular any physical symptoms noted, and any evidence gathered at a crime scene that may focus the search, are such as pill bottles, powders, trace residue, and any available substances, must be taken into account by a forensic toxicologist. They must ascertain which toxic substances are present, in what amounts, and the likely impact of those chemicals on the person given this knowledge and

### ARTICLE HISTORY

Received: 05-Dec-2022, Manuscript No. AJPBP-22-83908;

Editor assigned: 07-Dec-2022, PreQC No. AJPBP-22-83908 (PQ);

Reviewed: 21-Dec-2022, QC No. AJPBP-22-83908;

Revised: 27-Dec-2022, Manuscript No. AJPBP-22-83908 (R);

Published: 06-Jan-2023

samples to work.

Postmortem toxicology, human performance toxicology, and forensic drug testing are the three subfields of forensic toxicology. In order to determine how drugs, alcohol, and toxins affect biological samples acquired during an autopsy.

### Postmortem toxicology

Postmortem toxicology is an innovative use of forensic toxicology by which looks into whether or not drugs or poisons were a role in the manner and cause of death. Since the liver is the organ that body metabolises the majority of medicines and poisonous substances, it is the main solid tissue used in post-mortem toxicology. Drug levels can still be identified even when there are no levels in the blood because many medications concentrate in the liver.

### Human performance toxicology

Human performance toxicology is the study of how people react to their surroundings and to stimuli while under the effect of substances. Psychologists used to dominate this field of inquiry. Human performance toxicology is also known as behavioural toxicology.

### Forensic drug testing

Forensic drug testing is used in criminal trials can be tested; It entails a drug examination that should start with looking at a substance's physical characteristics and utilising forensic chemistry. Collection, preservation, and analysis are the three processes that make up the process. Forensic drug testing involves the detection of drug use among people in the workplace, sports doping, drug-related probation, and new job candidate screenings.

Drug identification and quantification are topics covered by forensic drug analysis. Screening and confirmation are typically the two processes involved in forensic drug tests.