7 Drug Panel (Barbiturates, Cocaine, Cannabis, Opiates, Amphetamines, Benzodiazepine, Meth) – [Serum] Analysis

Objective

The objective of this test is to detect and quantify the presence of seven commonly abused drugs, including barbiturates, cocaine, cannabis, opiates, amphetamines, benzodiazepines, and methamphetamines, in a patient's serum. This test is widely used in clinical toxicology, forensic examinations, and workplace drug testing programs.

Materials and Methods

Materials:
- Serum sample from patient
- Immunoassay test kits and confirmatory methods (e.g., GC-MS, LC-MS/MS)
- Standard laboratory equipment (centrifuge, pipettes, vials)

Methods:
1. Sample Collection: Draw venous blood and separate serum using centrifugation.
2. Screening: Perform immunoassay screening to detect the presence of drug metabolites.
3. Confirmation: Confirm positive results using advanced chromatographic methods such as Gas Chromatography-Mass Spectrometry (GC-MS) or Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS).
4. Quantification: Measure drug levels and compare against defined cut-off limits.
5. Quality Control: Apply internal standards and controls for result accuracy and reliability.
6. Interpretation: Determine clinical or forensic significance based on concentration and number of detected substances.

Results

- Negative: No drugs detected or concentrations below detection thresholds.
- Positive: One or more drugs detected above cut-off thresholds (requires confirmatory testing).
- Quantitative analysis provides concentrations for detailed interpretation in clinical or legal contexts.

Conclusion

The 7-drug panel test offers a targeted approach for screening common drugs of abuse, providing essential insights for healthcare providers, legal authorities, and workplace compliance monitoring. Confirmatory analysis ensures precise and defensible results.