



Preferred Lab Partners, the joint venture clinical laboratory of both St. Elizabeth Healthcare and Tri-Health, has developed a definitive LC-MS/MS method to quantify 62 drugs/metabolites. While this panel is extensive and highly specific, it will not identify every legal/prescribed and/or illicit drug that may be present in a urine sample. If a panel analyte is detected in the urine and its concentration exceeds the method cut-off concentration, then the lab will positively report and quantify that analyte.

Attempts to correlate urine quantitative results back to a suggested dose of a prescribed medication in order to establish adherence to a regimen is not recommended. Dosage calculations based on urinary excretion measurements should not be used for clinical purposes due to the excessively large range of potential values.

Drug Detection

In general, the ability to detect any drug or metabolite in urine is dependent on a variety of factors that include:

- Drug dosage
- Timing of urine collection relative to drug administration
- Method and frequency of dosing
- Patient factors, including age and gender
- Patient physical condition, including presence of kidney or liver disease
- Patient genetic factors, including presence of Cytochrome P450 variants
- Analytical method (e.g., immunoassay screen versus definitive LC-MS/MS)
- Positive/negative cut-off concentration selected

Unexpected Results

Unexpected urine drug testing results may be due to a variety of causes that include:

- Pharmacogenetic variability (e.g., 7-10% of Caucasian population lacks an active CYP2D6 enzyme)
- Drug-drug interactions (e.g., metabolism of codeine can be inhibited by Paxil® or Wellbutrin®)
- False positives or false negatives (more common with point-of-care immunoassay testing)
- Medication impurities
- Patient medication-taking behaviors

Our team, comprised of medical laboratory scientists and the laboratory medical director, is available by phone to assist with the interpretation of unexpected and/or complex results.

Clinician FAQ

Opioid Interpretation Aids

Benzodiazepine Interpretation Aids