



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 72 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**