

**Common Cross Reactants
(Related and Unrelated)**

MEDTOX performed cross reactivity studies on a number of drugs and metabolites to determine their cross reactivity with the individual drug screening tests. A complete listing is found in the PV MEDTOXScan package insert found at: www.medtox.com/producttraining.aspx under the "Package Insert/MSDS" tab. Select the appropriate revision as noted in the Quick Start Guide. Cross reactivity information is found on pages: ~6-9. The drugs included below were selected from the tables based on the cross reactivity data. The drug's cross reactivity is dependent on its concentration in the urine. This concentration is dependent on a number of factors including, but not limited to: dosage, frequency, metabolism and state of hydration.

<u>Most Sensitive To</u>	<u>Less Sensitive To</u>	<u>Known Cross Reactant</u>
<u>Amphetamine</u> d-Amphetamine, MDA	I-Amphetamine	Phentermine, Fenfluramine
<u>Barbiturates</u> Butalbital Phenobarbital Butabarbital Amo-, Pento-, Seco-barbital		Phenytoin
<u>Benzodiazepines</u> Nordiazepam Alprazolam Flurazepam metabolite Diazepam, Oxazepam, Temazepam Flunitrazepam Nitrazepam Chlorazepate metabolites Triazolam	Lorazepam Midazolam Clonazepam Chlordiazepoxide metabolites	
<u>Buprenorphine</u> Buprenorphine, (& glucuronide)	Norbuprenorphine & gluc.	
<u>Cocaine</u> Benzoylecgonine (Coc Metab) Cocaine		Suspected: Etodolac metabolites
<u>Methadone</u> Methadone		
<u>Methamphetamine</u> d-Methamphetamine MDMA	I-Methamphetamine MDE (MDEA)	Ephedrine, <i>Ephedra</i> , (ma huang) Phenylephrine (PE) Procaine, Fenfluramine,

Most Sensitive To

Opiates

Codeine
Morphine
6 MAM (Heroin Metabolite)
Hydrocodone
Dihydrocodeine

Oxycodone

Oxycodone
Oxymorphone

Phencyclidine (PCP)

Phencyclidine

Propoxyphene

Propoxyphene & Norpropoxyphene

THC (Cannabinoids)

Carboxy-THC (Marijuana Metab)

Tricyclic Antidepressants

Amitriptyline
Nortriptyline
Imipramine
Desipramine
Nordoxepin (Doxepin) Metabolite
Maprotiline

Less Sensitive To

Nalorphine
Levorphanol
Hydromorphone

Codeine, Dihydrocodeine
Morphine
Hydrocodone
Hydromorphone
Naloxone
Naltrexone

Trimipramine
Doxepin

Known Cross Reactant

Poppy Seeds (often contain enough morphine to cause a positive opiate screen at lower cut off concentrations)

Note: Higher concentrations of the opiates (Codeine, Morphine, Hydrocodone, Hydromorphone, etc., on the left) may cause a Positive Oxycodone Screen, in addition to a positive Opiate Screen.

Suspected: venlafaxine metabolites, Lamotrigine metabolites

Sustiva & Atripla contain Efavirenz---unmetabolized Efavirenz does not cause a positive THC screen, BUT its metabolites may cause a positive THC screen.

Cyclobenzaprine
Quetiapine
Promazine
Clozapine
Prochlorperazine
Perphenazine

It is important to remember that the MEDTOX device, like other instant drug testing immunoassays, are screening tests and they give you a preliminary result. Any presumptive positive result(s) should be explored for possible alternative explanations--i.e. known related/unrelated cross reactive compounds, etc. Alternative, more specific methods like GC/MS or LC/MS should be utilized to obtain a definitive confirmed quantitative result. Note: false negative results might be obtained if the urine is reanalyzed using higher workplace screening or confirmation thresholds. Furthermore, "Expanded Confirmation" testing panels should be utilized in order to detect a wider range of cross reactive drugs than utilized in workplace drug testing programs. No immunoassay screen is 100% accurate or specific. Not all presumptive positive screens will confirm positive--this is true of laboratory based instrumented immunoassays as well as on site drug screening

09/25/2012