

## Available immunochemistry, GC/MS as well as LC/MS assays

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### (a) Pharmacogenetic Genotyping

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<b>Gene</b>	<b>Function</b>
<b>Drug metabolizing enzymes</b>	
CYP2D6	Cytochrome P450 2D6
UGT2B7	UDP-Glycosyltransferase 2B7
UGT1A1	UDP-Glycosyltransferase 1A1
UGT1A3	UDP-Glycosyltransferase 1A3
<b>Drug receptors</b>	
OPRM1	Opioid receptor, mu-1
OPRD1	Opioid receptor, delta-1
OPRK1	Opioid receptor, kappa-1
<b>Drug transporters</b>	
ABCB1	ATP-binding cassette B1
SLCO1B1	Solute carrier organic anion transporter family, 1B1
SCLO1A2	Solute carrier organic anion transporter family, 1A2

**Other**

COMT	Catechol-O-methyltransferase
DRD2	Dopamine receptor D2
STAT6	Signal transducer and activator of transcription 6
MC1R	Melanocortin 1 receptor
GAL	Galanin

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**(b) Drug Monitoring**

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<b>Parameter</b>	<b>Sample type</b>
<b>Immunological tests</b>	
Addictive drugs (amphetamines, benzodiazepines, buprenorphine, cannabinoids, cocaine, ethanol, LSD, methadone/EDDP, opiates)	Urine ( $\geq 0.5$ ml)
Addictive drugs (amphetamines, benzodiazepines, cannabinoids, cocaine, methadone, opiates)	Plasma ( $\geq 0.5$ ml)
<b>Gas chromatography</b>	
Benzodiazepines (bromazepam, diazepam, flunitrazepam, lorazepam, midazolam, nordiazepam, oxazepam)	Plasma, blood ( $\geq 1.0$ ml)
Ethanol	Plasma, blood, urine ( $\geq 0.5$ ml)
Illicit drugs (amphetamine, methamphetamine, MDA, MDMA, MDE, cocaine, heroine, morphine, THC)	Powder ( $\geq 200$ mg)
<b>Gas chromatography-mass spectrometry (GC-MS)</b>	
General unknown screening for the identification of pharmacologically active compounds (e.g. drugs, pharmaceuticals, organic poisons, pesticides, pollutants and metabolites)	Powder ( $\geq 1$ mg), plasma, blood ( $\geq 2$ ml), urine ( $\geq 10$ ml)
Opioides (morphine, monoacetylmorphine, codeine, dihydrocodeine, methadone, EDDP, buprenorphine)	Plasma, blood ( $\geq 1$ ml), urine ( $\geq 2$ ml)

Cannabinoides (THC, 11-OH-THC, THC-COOH)	Plasma, blood, urine (≥ 1 ml)
Cocain and metabolites (cocaine, benzoylecgonine, methylecgonine, ethylecgonine, cocaethylene)	fluoride stabilized plasma or blood (1 ml)
Amphetamines (amphetamine, methamphetamine, MDA, MDMA, MDE)	Plasma, blood (≥ 1 ml)
γ-Hydroxybutyric acid (GHB)	Plasma, blood, urine (≥ 1 ml)

### **Liquid chromatography-mass spectrometry (LC-MS)**

General unknown screening for the identification of pharmacologically active compounds (e.g. drugs, pharmaceuticals, organic poisons, pesticides, pollutants and metabolites)	Powder (≥ 1 mg), plasma, blood (≥ 2 ml), urine (≥ 10 ml)
Benzodiazepines (flunitrazepam, oxazepam, lorazepam, bromazepam, diazepam, alprazolam, 7-aminoflunitrazepam, tetrazepam, midazolam, nordazepam)	Plasma, blood (≥ 1.0 ml)
Antineoplastic drugs (sunitinib, N-desethyl sunitinib, N,N-didesethyl sunitinib; temozolomide, 5-aminoimidazole-4-carboxamide, 3-methyl(triazenyl)imidazole-4-carboxamide)	Plasma, blood (≥ 0.5 ml)
Aromatase inhibitors (letrozole, anastrozole)	Plasma, blood (≥ 1.0 ml)
Estrogenrezeptor antagonist (tamoxifen)	Plasma, blood (≥ 1.0 ml)