

---

 This document is applicable at site(s):

**UAH**


---

## DAU Interpretation Job Aid

**Purpose** Quick reference for interpretation of toxicology screen results on the Cobas c501 analyzer.

**Interpretation** These results are **QUALITATIVE** only. (**Exception:** Cotinine is semi-quantitative)  
 Positive result if concentration in patient specimen is  $\geq$  specified level.  
 Negative result if concentration in patient specimen is  $<$  specified level.

Screening Test	Compounds which cross react to produce a positive result	Concentration $\geq$ ( $\mu\text{g/L}$ )
<b>CEDIA Amphetamines/ Ecstasy</b>	l-amphetamine	50,000
	d-Amphetamine	500
	d-l-Amphetamine	600
	Benzodioxolybutanamine (BDB)	700
	Cathinone	125,000
	4-Chloroamphetamine	3000
	Dimethylamylamine	40,000
	l-Ephedrine	100,000
	Fenfluramine	1350
	4-fluoroamphetamine	15,500
	p-Hydroxyamphetamine	3075
	Mephedrone	63,000
	Mephentermine	10,000
	d-Methamphetamine	500
	d,l-Methamphetamine	700
	l-Methamphetamine	2800
	Methcathinone	31,000
	n-Methylbenzodioxolybutanamine (MBDB)	500
	3,4-Methylenedioxyamphetamine (MDA)	500
	3,4-Methylenedioxyethylamphetamine (MDEA)	300
	3,4-Methylenedioxymethamphetamine (MDMA) (Ecstasy)	250
	3,4 – Methylenedioxypropylamphetamine	63,000
	p-Methoxyamphetamine (PMA)	3000
	p-Methoxymethamphetamine (PMMA)	600
	Phenmetrazine	1260
	Phentermine	15,000
	d,l-Phenylpropanolamine	150,000
	d-Pseudoephedrine	50,000
$\beta$ -phenylethylamine	5000	

Screening Test	Compounds which cross react to produce a positive result	Concentration ≥ (µg/L)
<b>CEDIA Amphetamines/ Ecstasy</b>	Synephrine	1,000,000
	N-(3-trifluoromethylphenyl) piperazine HCl	15,000
	<b>False Positives:</b>	
	<ul style="list-style-type: none"> <li>• 1-Benzylpiperazine</li> <li>• Bupropion</li> <li>• Fenofibrate/fenofibrate metabolites</li> <li>• Metachlorophenylpiperazine (mCPP)</li> <li>• Phenelzine breakdown</li> <li>• Ranitidine</li> <li>• Trazodone</li> <li>• Trifluoromethylphenylpiperazine (TFMPP)</li> </ul>	
	Compounds that do not give a false positive response:	
	<ul style="list-style-type: none"> <li>• Aminorex (levamisole metabolite)</li> <li>• Desmethyltapentadol</li> <li>• Tapentadol</li> </ul>	
<b>Roche® Barbiturates</b>	<b>Compounds which cross react to produce a positive result</b>	<b>Concentration ≥ (µg/L)</b>
	Allobarbital	~ 423 *
	Amobarbital	~ 1053*
	Aprobarbital	~ 323 *
	Barbital	~ 2625*
	Barbituric Acid	>100,000
	Butabarbital	~ 821 *
	Butalbital	~ 422 *
	Cyclopentobarbital	~ 296 *
	1,3 Dimethylbarbituric Acid	>150,000
	Glutethimide	>750,000
	Hexobarbital	>100,000
	p-Hydroxyphenobarbital	~ 1559 *
	Mephobarbital	>150,000
	Pentobarbital	~ 842 *
	Phenobarbital	~ 1388 *
	Phenytoin	>750,000
Secobarbital	300	
*Estimates only as direct extrapolation from 200 ng/mL cutoff may not be proportional.		

Screening Test	Compound	Conc. ≥ (µg/L)	Compound	Conc. ≥ (µg/L)
<b>Roche® Benzodiazepines</b>	α-hydroxy-Alprazolam	347	Etizolam	343
	α-hydroxy-Triazolam	440	Flubromazepam	350
	α-hydroxymidazolam	428	3-OH-Flubromazepam	358
	4 Hydroxylalprazolam	342	Flubromazolam	351
	7-aminoflunitrazepam	368	Flunitrazepam	439
	7-aminoclonazepam	334	Flurazepam	511
	7-aminonitrazepam	218	Hydroxyethylflurazepam	394
	7-acetamidonitrazepam	55,328	Lorazepam	506
	Alprazolam	372	Lorazepam glucuronide	825
	Benzazepam	504	Lormetazepam	410
	Bromazepam	299	Meclonazepam	424
	Chlordiazepoxide	499	Midazolam	564
	Clobazam	386	Nifoxipam	552
	Clonazepam	483	Nitrazepam	354
	Clonazolam	290	Norchlordiazepoxide	483
	Clorazepate	374	Nordiazepam	316
	Desalkylflurazepam	336	Oxazepam	325
	Deschloroetizalom	242	Oxazepam glucuronide	684
	Desmethylchlordiazepoxide	452	Pyrazolam	300
	Desmethylflunitrazepam	338	Temazepam	416
	Desmethylmedazepam	539	Temazepam glucuronide	923
	Diazepam	400	Triazolam	425
	Diclazepam	346	Zolpidem	200,000
	Didesethylflurazepam	458		
<b>False Positives:</b>				
<ul style="list-style-type: none"> <li>• Oxaprozin</li> </ul>				
Compounds that do not give a false positive response:				
<ul style="list-style-type: none"> <li>• Norsertaline (at 5.0 ug/mL)</li> <li>• Sertraline (at 5.0 ug/mL)</li> </ul>				

Screening Test	Compounds which cross react to produce a positive result	Concentration ≥ (µg/L)
<b>Immunoanalysis® Buprenorphine</b>	Buprenorphine	5
	Norbuprenorphine	5.5
<b>Roche® Cannabis Metabolites</b>	<b>Compounds which cross react to produce a positive result</b>	<b>Concentration ≥ (µg/L)</b>
	9-carboxy-11-nor- $\Delta^9$ -THC-COOH	73
	9-carboxy-11-nor- $\Delta^9$ -THC-COOH glucuronide	93
	11-nor- $\Delta^9$ -THC-COOH	50
	$\Delta^9$ -THC	25,000
	11-OH- $\Delta^9$ -THC	376
	8 $\beta$ , 11-di-OH- $\Delta^9$ -THC	162
	8- $\alpha$ -hydroxy- $\Delta^9$ -THC	338
	Cannabinol	8333
	Marinol, Sativex: These oral prescription medications contain $\Delta^9$ -THC, which will generate the $\Delta^9$ -THC-COOH metabolite, resulting in a true positive screen result.	
	Compounds which do not give a false positive response: <ul style="list-style-type: none"> <li>• Efavirenz (Sustiva) metabolite</li> <li>• Pantoprazole (Pantaloc)</li> <li>• Nabilone (Cesamet)</li> </ul>	
<b>CEDIA DAU Cocaine Metabolite</b>	<b>Compounds which cross react to produce a positive result</b>	<b>Concentration ≥ (µg/L)</b>
	Benzoylcegonine	150
	Cocaethylene	34,933
	Cocaine	7733
<b>DRI® Cotinine</b>	<b>Compounds which cross react to produce a positive result</b>	<b>Concentration ≥ (µg/L)</b>
	Cotinine	250
	3-Hydroxy-Cotinine	12,500
	Note: Nicotine does not cause a positive result.	
<b>CEDIA DAU EDDP Methadone Metabolite</b>	<b>Compounds which cross react to produce a positive result</b>	<b>Concentration ≥ (µg/L)</b>
	EDDP	300
	EMDP	600,000
	Methadone	1,800,000
	$\alpha$ -levo-acetylmethadol	3,000,000
	$\alpha$ -levo-dinoracetylmethadol	3,000,000
	$\alpha$ -levo-noracetylmethadol	3,000,000

Screening Test	Compound	Concentration (mmol/L)	%Cross Reactivity
Roche® Ethanol	n-Butanol	440	1.7
	n-Propanol	440	10.7
	<ul style="list-style-type: none"> <li>Assay detects ethyl alcohol and no other alcohols (isopropanol, methanol,) or ethylene glycol.</li> </ul>		
Immunoanalysis® Fentanyl	<b>Compounds which cross react to produce a positive result</b>		<b>Concentration ≥ (µg/L)</b>
	Fentanyl		2
	Acetylfentanyl		4
	Despropionfentanyl		125
	Hydroxyfentanyl		5
	<b>False Positives:</b> <ul style="list-style-type: none"> <li>Trazodone (≥300 µg/mL)</li> </ul>		
DRI® Oxycodone	<b>Compounds which cross react to produce a positive result</b>		<b>Concentration ≥ (µg/L)</b>
	Oxycodone		300
	Oxymorphone		300
	Noroxycodone		50,000
	Noroxymorphone		500,000
	<b>False Positives:</b> <ul style="list-style-type: none"> <li>Naloxone and its metabolites may cause a false positive result.</li> <li>High concentrations of hydromorphone (&gt;30,000 µg/L) or hydrocodone (&gt;145,000 µg/L) may cause a false positive result.</li> </ul>		
Roche® Opiates	<b>Compounds which cross react to produce a positive result</b>		<b>Concentration ≥ (µg/L)</b>
	6-Acetylmorphine		386
	Codeine		224
	Desomorphine		1333
	Diacetylmorphine		366
	Dihydrocodeine		510
	Ethyl morphine		297
	Hydrocodone		1086
	Hydromorphone		1425
	Meperidine		>100,000
	Morphine		300
	Morphine-3-glucuronide		552
	n-Norcodeine		18,590
	Oxycodone		>75,000
	Thebaine		1210
<b>False Positives:</b> <ul style="list-style-type: none"> <li>High concentrations of rifampin or ofloxacin (levofloxacin).</li> <li>Ingestion of poppy seed products.</li> </ul>			

Screening Test	Compounds which cross react to produce a positive result	Concentration ≥ (µg/L)
<b>DRI® Tricyclics</b>	Amitriptyline	400
	Amoxapine	100,000
	Clomipramine	350
	Desipramine	250
	Doxepin	550
	Imipramine	350
	2-Hydroxyimipramine	1700
	Loxapine succinate	250,000
	N- desmethyltrimipramine	780
	Norclomipramine HCl	780
	Nordoxepin HCl	1560
	Nortriptyline	300
	Opipramol Dihydrochloride (not in Canada)	780
	Protriptyline	450
	Trimipramine	1000
<b>False Positives:</b>		
<ul style="list-style-type: none"> <li>• Carbamazepine                      • Dimenhydrinate                      • Orphenadrine</li> <li>• Chlorpromazine                      • Diphenhydramine                      • Quetiapine</li> <li>• Cyclobenzaprine</li> </ul>		
Compounds that do not cause a false positive response:		
<ul style="list-style-type: none"> <li>• Methotrimeprazine                      • Olanzapine</li> </ul>		
Severely hemolytic, lipemic or icteric samples may cause questionable results and must not be run.		