

TRICYCLIC ANTIDEPRESSANT CROSS-REACTIVITY TABLES

Specificity

The Emit Serum TCA assay detects specific tricyclic antidepressants in serum or plasma.

High therapeutic concentrations (200-300 ng/mL) or toxic levels of chlorpromazine may give a positive result in this assay.⁸

Therapeutic concentrations of cyclobenzaprine (20-34 ng/mL) should not give a positive result. However concentrations >200ng/mL may give a positive result.^{9,10}

The assay detects thioridazine at therapeutic concentrations (>1.5 µg/mL), diphenhydramine at toxic concentrations (>12 µg/mL), orphenadrine citrate at fatal concentrations (>6 µg/mL), and cyproheptadine at therapeutic concentrations (>0.42 µg/mL).¹¹⁻¹⁴

The assay's response to the four parent compounds differs slightly. The table below lists concentrations and compounds that may produce a POSITIVE result.

Parent Compound	Concentration (ng/mL)	Metabolites	Concentration (ng/mL)	Compound	Concentration (ng/mL)
Amitriptyline	200-400	10-Hydroxy-amitriptyline	1250 ng/mL	Clomipramine	500 ng/mL
Desipramine	200-400	2-Hydroxy-desipramine	1250 ng/mL	Dothiepin	500 ng/mL
Imipramine	200-400	2-Hydroxy-imipramine	750 ng/mL	Doxepin	500 ng/mL
Nortriptyline	300	10—Hydroxy-nortriptyline	1750 ng/mL	Protriptyline	500 ng/mL
				Trimipramine	600 ng/mL

Structurally unrelated compounds that tested NEGATIVE at 300 ng/mL cut-off:

Compound	Concentration Tested (µg/mL)	Compound	Concentration Tested (µg/mL)
Acetaminophen	1500	Phencyclidine	1000
Amoxapine	20	Phenytoin	100
Amphetamine	500	Promethazine	500
Carbamazepine	100	Propoxyphene	500
Dextromethorphan	1000	Secobarbital	500
Diazepam	500	Methaqualone	100
Ethchlorvynol	500	Morphine	100
Perphenazine	350	Maprotiline	2000 ng/mL