

Benzodiazepine ELISA Kits for Forensic Drug Detection

Benzodiazepine Background

Since their introduction in the 1960s, benzodiazepines have been widely prescribed to treat anxiety, insomnia, muscle spasms, alcohol withdrawal, and seizure prevention as they are depressants of the central nervous system. Although they are highly effective for their intended use, benzodiazepines are prescribed with caution as they can be highly addictive.

Common street names of benzodiazepines include benzos and downers. The most encountered benzodiazepines on the illicit market are alprazolam (Xanax), lorazepam (Ativan), clonazepam (Klonopin), diazepam (Valium), and triazolam (Halcion).

Neogen[®] offers Benzodiazepine Group ELISA and Benzodiazepine Group Ultra ELISA that successfully detect more than 20 analytes, including the top encountered benzodiazepines and designer benzodiazepines.

With our 30-year history of developing ELISA test kits and reagents, laboratories trust us to be their preferred forensic ELISA test kit source. Reviewing the sensitivity and specificity information for each kit is the best way to determine which kit is most appropriate for your screening requirements.

Reference

Department of Justice and Drug Enforcement Administration. "Drug Fact Sheet. Benzodiazepines." April 2020. https://www.dea.gov/sites/default/files/2020-06/Benzodiazepenes-2020_1.pdf.

Product Features

- Ultimate detection of major drug analyte oxazepam.
- Ultra-sensitive detection of more than 20 benzodiazepines, including phenazepam, etizolam, delorazepam, diclazepam, pyrazolam, flubromazepam, alprazolam, lorazepam, clonazepam, diazepam, temazepam, cloniprazepam, flubromazolam, and clonazolam.
- Validated for human urine, whole blood, and oral fluid.

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Benzodiazepine Group #130119 (96-well)/#130115 (480-well)

Compound	% Cross-reactivity
Oxazepam	100
Flualprazolam	467
Diazepam	434
Estazolam	365
Nordiazepam	361
Alprazolam	346
Bromazolam	328
Tetrazeepam	264
Flurazepam	262
Flubromazolam	253
Lormetazepam	231
Prazepam	198
Temazepam	192
Phenazepam	190
Halazepam	173
Triazolam	171
7-amino-Flunitrazepam	147
Diclazepam	142
Nitrazepam	141
Clonazolam	120
Flubromazepam	120
N-desmethyl Flunitrazepam	119
Delorazepam	115
Flunitrazepam	110
Adinazolam	109
Pyrazolam	106
3-hydroxyphenazepam	104
Etizolam	87
Bromazepam	85
Clonazepam	79
Nimetazepam	74
Lorazepam	70
Midazolam	65
Deschloroetizolam	63
Clobazam	59
8-amino-Clonazolam	57
7-amino-Clonazepam	39
alpha-hydroxy Alprazolam	25
Chlordiazepoxide	19
Nifoxipam	12
Bentazepam	11
Meclonazepam	5
alpha-hydroxy Etizolam	1
Zolazepam	0.6

■ Indicates Designer Benzodiazepines

Note: Oxazepam equivalents represents 50% B/B0 assay displacement in EIA Buffer.

Benzodiazepine Group Ultra #134319 (96-well)/#134315 (480-well)

Compound	% Cross-reactivity
Oxazepam	100
Nordiazepam	179
Nimetazepam	159
Estazolam	154
Clobazam	146
Bromazepam	142
Diazepam	142
3-hydroxyphenazepam	141
Etizolam	140
Pyrazolam	137
Clorazepate	132
alpha-hydroxy Alprazolam	132
Medazepam	129
Clonazolam	122
Flubromazepam	118
Nitrazepam	117
Triazolam	113
Alprazolam	112
Flualprazolam	112
Desalkylflurazepam	111
Lormetazepam	109
Flunitrazolam	107
Tetrazeepam	104
Diclazepam	103
2-Hydroxyethylflurazepam	101
Flurazepam	99
Lorazepam	99
alpha-hydroxy Triazolam	97
Temazepam	96
N-Desmethylflunitrazepam	93
Clonazepam	93
Flubromazolam	92
Flunitrazepam	90
Delorazepam	90
Cloniprazepam	82
Adinazolam	79
8-amino-Clonazolam	77
7-amino-Nitrazepam	75
Prazepam	70
7-amino-Flunitrazepam	70
Halazepam	69
Chlordiazepoxide	68
Midazolam	62
7-amino-Clonazepam	60
Phenazepam	53
Deschloroetizolam	49
Bentazepam	47
alpha-hydroxy Etizolam	5
Zolazepam	0.1

Other drugs not listed include: Meclonazepam (30%), Nifoxipam (14%), Ketazolam (7%), Oxaprozin (2%), Nefopam (0.2%).