EDDP (methadone metabolite)

Urine HEIA® Drug Screening Kit

EDDP is the primary metabolite of methadone. It is excreted in the bile and urine together with the other metabolite EMPD. EDDP is formed by N-demethylation and cyclization of methadone in the liver. The part of the unchanged excreted methadone is variable and depends on the urine's pH value, dose, and the patient's metabolism. Therefore, detection of the metabolite EDDP instead of methadone itself is useful because interferences of the patient's metabolism are avoided, and the detection of EDDP avoids concerns of potential sample adulteration. EDDP can be detected within 4 to 6 hours after use. It can be cleared by the body within 2 to 3 days after use.

Administration: Pill, sublingual tablet, and oral formulations.

Elimination: Methadone has a typical half life of 15 to 55 hours and metabolizes by N-demethylation to its main metabolite, 2-ethylidene-1, 5-dimethyl-3,3-diphenylpyrrolidine (EDDP) and then N-demethylates to its secondary metabolite, 2-ethyl-5-methyl-3,3-diphenylpyrroline (EMDP). The considerable variation in methadone metabolism and excretion is apparently due to genetic variability in the production of the associated enzymes CYP3A4, CYP2B6, and CYP2D6.[1-3]

Abuse Potential: Methadone is a Schedule II controlled analgesic; it has the potential for being abused and is subject to criminal diversion.

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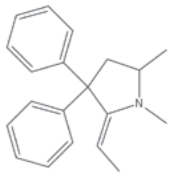

Formula: $C_{20}H_{23}N$

Systematic Name:
2-ethylidene-1, 5-dimethyl-3, 3-diphenylpyrrolidine

Brand Names: Dolophine®, Methadose®, Physetone®

- Indication of methadone ingestion
- Available cutoffs at 100, 300, or 1000 ng/mL
- Designed for qualitative or semi-quantitative testing
- Accurate and trusted results
- Liquid stable and ready to use

1. Totah, R.A. et al. Enantiontiomeric Metabolic Interactions and Steroselective Human Methadone Metabolism. *Journal of Pharmacology and Experimental Therapeutics.* 321: 389-399 (2007).
2. Preston, K.L. et al. Methadone and Metabolite Urine Concentration in Patients Maintained on Methadone. *Journal of Pharmacology and Experimental Therapeutics.* 27: 332-341 (2003).
3. Eap, C.B. et al. "Pharmacokinetics and Pharmacogenetics of Methadone: Clinical Relevance." *Heroin Addiction and Related Clinical Problems:* The Official Journal of EUROPAD, European Opiate Addiction Treatment Association 1 (1): 19-34 (1999).

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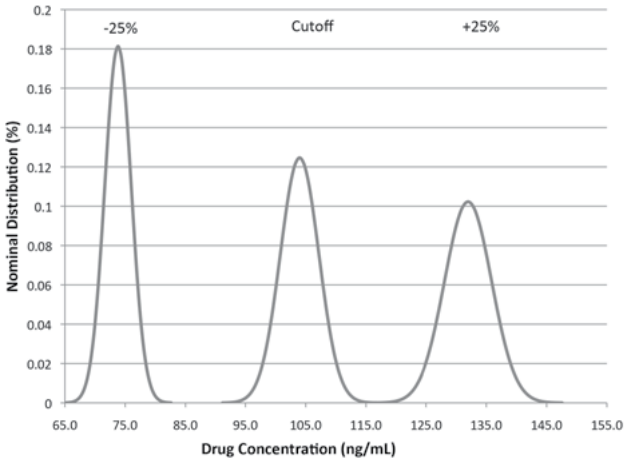
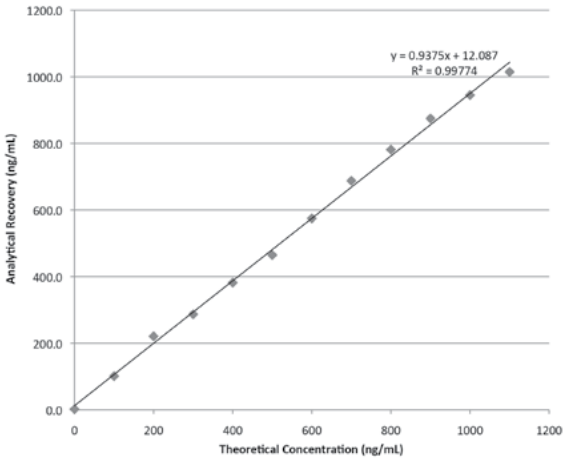
Assay Specifications

Methodology: Homogeneous enzyme immunoassay
Cutoff: 100 ng/mL
Calibration Range: 0-1000 ng/mL

Overlap: EDDP (100 ng/mL cutoff)



Analytical Recovery: EDDP



Cross-Reactivity

Analyte	Analyte Concentration (ng/mL)	Cross-Reactivity (%)
EDDP	100	100.00
Methadone	700,000	0.01
EMDP	1,000,000	<0.01
Chlorpromazine	90,000	0.11
Diphenhydramine	1,000,000	0.01
Methylphenidate	100,000	0.10
Doxylamine	1,000,000	<0.01
LAAM	1,000,000	<0.01
(±)-alpha methadol	1,000,000	0.01
(-)-iso-methadone	100,000	<0.10

		LC-MS/MS Confirmation (100 ng/mL)	
		Positive	Negative
HEIA (100 ng/mL)	Positive	40	1
	Negative	0	39

Semi-Quantitative Precision at 100 ng/mL

Interday Precision (N = 80)		
Concentration	**Result**	**Total Result**
50 ng/mL	NEG	80 Negative
75 ng/mL (control LOW)	NEG	80 Negative
100 ng/mL calibrator	n/a	10 Negative/ 70 Positive
125 ng/mL (control HIGH)	POS	80 Positive
150 ng/mL	POS	80 Positive

Order - EDDP Specific (HEIA)

Kit Catalog Number	Description
349UR-0025	25 mL kit
349UR-0060W	60 mL wedge kit
349UR-0100	100 mL kit
349UR-0500	500 mL kit

Please refer to the product insert for calibrator and control set information.

Neg-10-1	10 mL negative reference calibrator

The charts and data provided above were generated in studies conducted by Immunalysis Corporation. This information is intended to be representative of the performance of the assay. Refer to the product insert for a full description of the performance characteristics for semi-quantitative and qualitative testing. For in vitro diagnostic use.

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