

Overview**Useful For**

Monitoring of compliance utilizing tapentadol

Detection and confirmation of the illicit use of tapentadol

Method Name

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

NY State Available

Yes

Specimen**Specimen Type**

Urine

Advisory Information

If submitting for multiple tests on 1 order, submit a total volume of 5 mL per test ordered in a single plastic container.

Specimen Required

Supplies: Aliquot Tube, 5 mL (T465)

Collection Container/Tube: Plastic urine container

Submission Container/Tube: Aliquot Tube, 5 mL (T465)

Specimen Volume: 2 mL

Collection Instructions: No preservative.

Forms

If not ordering electronically, complete, print, and send a [Therapeutics Test Request](#) (T831) with the specimen.

Specimen Minimum Volume

0.1 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	14 days	
	Ambient	14 days	
	Frozen	14 days	

Clinical and Interpretive

Clinical Information

Tapentadol, a centrally acting opioid analgesic, is used in the treatment of moderate to severe acute and chronic pain and for the management of neuropathic pain associated with diabetic peripheral neuropathy in adults (extended release formulation only). Tapentadol acts as an opiate agonist through its binding to mu-opioid receptors and through the inhibition of norepinephrine reuptake. About 97% of the parent drug is metabolized. The major pathway of tapentadol metabolism is conjugation with glucuronic acid to produce glucuronides. Tapentadol and its metabolites (N-desmethyltapentadol and hydroxyl-tapentadol) are excreted almost exclusively via the kidneys and approximately 70% of the drug is excreted in urine in the conjugated form. The metabolites of tapentadol have no analgesic activity. The half-life of tapentadol is approximately 4 hours.

Opioid analgesics have high abuse potential and the regular use of tapentadol may result in physical dependence and tolerance. Tapentadol is a schedule II controlled substance with abuse liability similar to other opioid agonists.

Reference Values

Cutoff: 25 ng/mL

Note: Tapentadol concentrations will be reported quantitatively and N-desmethyltapentadol will be reported qualitatively (Present or Negative).

Interpretation

The presence of tapentadol or N-desmethyltapentadol levels of 25 ng/mL or higher is a strong indicator that the patient has used tapentadol.

Cautions

Urine concentrations do not correlate well with serum drug levels and are not intended for therapeutic drug management.

Results are intended to be interpreted by a physician or health care professional. This test is not intended for use in employment-related testing.

Clinical Reference

1. Wade WE, Spruill WJ: Tapentadol hydrochloride: a centrally acting oral analgesic. *Clin Ther* 2009;31(12):2804-2818

2. Tzschentke TM, Christoph T, Kogel B et al: (-)-(1R,2R)-3-(3-Dimethylamino-1-ethyl-2-methyl-propyl)-phenol hydrochloride (tapentadol HCL): a novel mu-opioid receptor agonist/norepinephrine reuptake inhibitor with broad-spectrum analgesic properties. *J Pharmacol Exp Ther* 2007;323:265-276

Performance

PDF Report

No

Day(s) and Time(s) Test Performed

Monday, Wednesday, Friday; 2nd Shift

Analytic Time

2 days

Specimen Retention Time

14 days

Performing Laboratory Location

Rochester

Fees and Codes**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

80372

G0480 (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
TAPEN	Tapentadol and Metabolite, U	In Process

Result ID	Test Result Name	Result LOINC Value
35916	Tapentadol	65807-0
35917	N-desmethyltapentadol	65808-8