
Lab Dept: Chemistry

Test Name: LEVETIRACETAM LEVEL

General Information

Lab Order Codes: LEVET

Synonyms: Keppra

CPT Codes: 80177 – Levetiracetam

Test Includes: Levetiracetam level reported in ug/mL.

Logistics

Test Indications: This test is used for monitoring levetiracetam therapy. Because levetiracetam has a wide therapeutic index and linear dose-concentration dependence, drug monitoring is not indicated in all patients. Drug concentration monitoring can be useful in documenting failure to respond that may be due to noncompliance, or to guide dosage adjustments in patients with renal failure.

Lab Testing Sections: Chemistry – St Paul Campus

Phone Numbers: MIN: 612-813-6280

STP: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 4 hours, performed daily

Special Instructions: N/A

Specimen

Specimen Type: Blood

Container: Red top NO GEL tube, preferred
Alternate: Green top NO GEL (Lithium Heparin) tube

Draw Volume: 1.5 mL (Minimum: 0.6 mL) blood

Processed Volume: 0.5 mL (Minimum: 0.2 mL) serum/plasma

Collection: Routine venipuncture

Special Processing:	Lab Staff: Centrifuge specimen, remove serum aliquot into a plastic sample cup. Store and ship at refrigerated temperatures. Mpls: Forward specimen promptly to St. Paul.
Patient Preparation:	None
Sample Rejection:	Mislabeled or unlabeled specimens

Interpretive

Reference Range: Expected steady state trough concentrations in patients receiving recommended daily dosages: 5 - 45 ug/mL. Toxic range has not been established.

Critical Values: N/A

Limitations: Reporting limit: 2.0 ug/mL

Levetiracetam can be increased in the ARK assay due to the presence of Briviact (Brivaracetam, the chemical analog of Levetiracetam). If a patient is being switched from one drug to the other. The circulating half-life of each drug is 8-9 hours, and sufficient time should be allowed for clearance of the discontinued drug. Levels of either drug should be confirmed using a valid chromatographic method if there is a possibility the drugs are co-present in circulation.

Methodology: Immunoassay

References: ARK Diagnostics, Inc, Package Insert for the ARK Levetiracetam Assay, ARK Diagnostics, Inc, Sunnyvale, CA 94089, USA, 1600-0169-00 Rev 01, Revised November 2009

ARK Diagnostics, Inc, Package Insert for the ARK Levetiracetam Calibrator, ARK Diagnostics, Inc, Sunnyvale, CA 94089, USA, 1600-0171-00, Rev 01, Revised November 2009

ARK Diagnostics, Inc, Package Insert for the ARK Levetiracetam Control, ARK Diagnostics, Inc, Sunnyvale, CA 94089, USA, 1600-0171-00, Rev 01, Revised November 2009

Epilepsia, Sunday, December 3, 2006 Poster Session II 7:30am-4:30pm.
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MedTox Laboratories Test Catalogue, MEDTOX Scientific, Inc, 402 West County Road D, St Paul, MN 55112, Phone: (800)832-3244, (651)-636-7466

Updates:

6/14/2004: Test changed from storage and shipment at ambient temperatures to refrigerated temperatures.

12/7/2010: Information updated for MedTox, Mayo information no longer referenced. All specimens to be sent to MedTox.

9/28/2012: Levetiracetam testing now performed internally at Children's

1/7/2015: CPT update

11/16/2016: CPT update

11/21/2018: Added Briviact interference info under Limitations

11/23/20: Updated for Method Abbott,