Test Definition: FELBA

Felbamate (Felbatol), S

Overview

Useful For

Determining whether a poor therapeutic response is attributable to noncompliance or lack of drug effectiveness

Monitoring changes in serum concentrations resulting from interactions with coadministered drugs such as barbiturates and phenytoin

Method Name

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

NY State Available

Yes

Specimen

Specimen Type

Serum

Specimen Required

Container/Tube:

Preferred: Red top

Acceptable: Serum gel

Submission Container/Tube: Plastic vial

Specimen Volume: 1 mL

Collection Instructions:

1. Draw blood immediately before next scheduled dose.

2. Centrifuge and separate serum from cells or gel within 2 hours of collection.

Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

-Neurology Specialty Testing Client Test Request (T732)

-Therapeutics Test Request (T831)

Specimen Minimum Volume

0.5 mL

Reject Due To

Gross hemolysis	OK
Gross lipemia	OK

Gross icterus	OK

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Serum	Refrigerated (preferred)	28 days	
	Ambient	28 days	
	Frozen	28 days	

Clinical and Interpretive

Clinical Information

Felbamate is an anticonvulsant drug approved for treatment of partial seizures with or without secondary generalization in persons 14 years of age and older. It is also approved for Lennox-Gastout syndrome in children 2 years of age and older. Felbamate is well absorbed (>90%) and is metabolized by the hepatic cytochrome P450 system. Metabolites lack anticonvulsant activity. The elimination half-life of felbamate ranges from 13 to 23 hours.

Optimal response to felbamate is seen with serum concentrations between 30 mcg/mL to 60 mcg/mL. Patients who are elderly or have renal dysfunction may require reduced dosing; felbamate should not be given to individuals with hepatic disease. Toxicity can be severe, including life-threatening aplastic anemia or liver failure; toxic concentration has been established at concentrations greater than 120 mcg/mL.

Coadministration of felbamate increases the concentration of phenytoin and valproic acid, decreases carbamazepine concentration, and increases carbamazepine-10,11-epoxide (its active metabolite). Conversely, coadministration of phenytoin or carbamazepine causes a decrease in felbamate concentration.

Reference Values

30.0-60.0 mcg/mL

Interpretation

Optimal response to felbamate is associated with serum concentrations of 30 mcg/mL to 60 mcg/mL.

Toxic serum concentrations for felbamate have been established at concentrations greater than 120 mcg/mL.

Cautions

No significant cautionary statements

Clinical Reference

1. Johannessen, SI, Tomson, T: Pharmacokinetic Variability of Newer Antiepileptic Drugs: When is Monitoring Needed? Clin Pharmacokinet 2006;45 (11):1061-1075

2. Schmidt D: Felbamate: successful development of a new compound for the treatment of epilepsy. Epilepsia 1996;34(Suppl 7):S30-S33

3. Patsalos PN: Antiepileptic drugs--best practice guidelines for therapeutic drug monitoring: a position paper by the subcommission on therapeutic drug monitoring, ILAE Commission on Therapeutic Strategies. Epilepsia. 2008 Jul;49(7):1239-1276

4. Nader R, Horwath AR, Wittwer CT: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. Sixth edition. Elsevier, St. Louis, 2018

Performance

PDF Report

No

Day(s) and Time(s) Test Performed

Monday, Wednesday, Friday; 3 p.m.

Analytic Time

Same day/1 day

Maximum Laboratory Time

3 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

80299

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
FELBA	Felbamate (Felbatol), S	6899-9

Result ID	Test Result Name	Result LOINC Value
80782	Felbamate (Felbatol), S	6899-9