

# News

## Clinical Laboratory Test Update

### Keppra (Levetiracetam) and Lamotrigine by LCMS

Effective, December 3, 2020, the University of Colorado Hospital Clinical Laboratory implemented a new method for Keppra and Lamotrigine testing by Liquid Chromatography Mass Spectroscopy (LCMS).

Test name	Keppra (Levetiracetam)	Lamotrigine
EAP	LAB477	LAB475
Collect	One 6 mL plain red top tube, no gel	One 6 mL plain red top tube, no gel
Storage/Transport	Internal: Deliver to lab immediately.	Internal: Deliver to lab immediately.
	Offsite: Allow 30 minutes for red top to clot before centrifuging. Centrifuge within 2 hours of collection. Place at least 0.5 mL serum in aliquot container and send to lab refrigerated/on ice (2-8 °C).	Offsite: Allow 30 minutes for red top to clot before centrifuging. Centrifuge within 2 hours of collection. Place at least 0.5 mL serum in aliquot container and send to lab refrigerated/on ice (2-8 °C).
Stability	Prior to centrifugation: Ambient, 2 hours. Serum aliquot: Ambient, 6 weeks Refrigerated (2-8 degrees C), 6 weeks; Frozen (-20 degrees C): 6 weeks	Prior to centrifugation: Ambient, 2 hours. Serum aliquot: Ambient, 6 weeks; Refrigerated (2-8 degrees C), 6 weeks; Frozen (-20 degrees C): 6 weeks
Method	Liquid Chromatography – Tandem Mass Spectrometry (LCMS)	Liquid Chromatography – Tandem Mass Spectrometry (LCMS)
Performed	Monday and Thursday	Monday and Thursday
Reported	1 – 2 days	1 – 2 days
Reference Interval	Therapeutic range not well established	Therapeutic range not well established
Interpretive Data	The effective serum levels for Levetiracetam vary among individuals. 12 to 46 µg/mL has been reported as a range over which some have responded to the drug based on a specimen drawn immediately before the next dose. It is also common for individuals to have a therapeutic response with a level outside this range. Therefore, interpretation of this result must be made in the context of the individual clinical scenario.	The proposed therapeutic range for seizure control is 3-14 µg/mL. The pharmacokinetics of Lamotrigine are affected by renal function. The relationship between serum concentration and toxicity is not known.
CPT	80177	80175

Please contact Geza Bodor, MD at 720-848-6032 if you have any questions, or visit our website at <https://www.testmenu.com/universityhospital> for additional information.

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