

Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB: 4/19/1975
Gender: Female
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
Collection Date: 00/00/0000 00:00

Carbamazepine, Free and Total, Serum or Plasma

ARUP test code 2011763

Total Carbamazepine 8.7 ug/mL (Ref Interval: 4.0-12.0)

Free Carbamazepine 2.2 ug/mL (Ref Interval: 1.0-3.0)

Percent Free Carbamazepine 25.3 % (Ref Interval: 8.0-35.0)

INTERPRETIVE INFORMATION: Carbamazepine, Free and Total, Serum or Plasma

The therapeutic range is based on serum pre-dose (trough) draw at steady-state concentration. Free carbamazepine may be important to monitor in patients with altered or unpredictable protein binding capacity. Carbamazepine is also subject to drug-drug interactions due to displacement of protein binding and extensive metabolism. Cross-reactivity with metabolites may account for differences in carbamazepine among analytical methods. Calculating percent free attempts to minimize differences in assay cross-reactivity and may be useful in dose optimization.

A rare adverse drug reaction to carbamazepine therapy includes Stevens-Johnson syndrome or toxic epidermal necrolysis. Patients of Asian ancestry with the presence of the HLA-B*15:02 have an increased risk for this carbamazepine-induced life-threatening reaction. Pharmacogenetic testing for HLA-B*15:02 is recommended for patients at risk for carbamazepine hypersensitivity prior to treatment. This information has been included in the FDA-approved label for carbamazepine (<https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm>) and guideline from the Clinical Pharmacogenetics Implementation Consortium (<https://www.pharmgkb.org/guidelines>) [ARUP test code 2012049, HLA-B*15:02 Genotyping, Carbamazepine Hypersensitivity.] A combination of therapeutic drug monitoring with HLA-B*15:02 pharmacogenetics genotyping may benefit patients who are at increased risk for developing carbamazepine-induced adverse events due to rare genotypes other than HLA-B*15:02 variant allele.

H=High, L=Low, *=Abnormal, C=Critical

Unless otherwise indicated, testing performed at:

ARUP LABORATORIES | 800-522-2787 | aruplab.com
500 Chipeta Way, Salt Lake City, UT 84108-1221
Jonathan R. Genzen, MD, PhD, Laboratory Director

Patient: Patient, Example
ARUP Accession: 22-144-400128
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
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VERIFIED/REPORTED DATES

| Procedure | Accession | Collected | Received | Verified/Reported |
|----------------------------|---------------|------------------|------------------|-------------------|
| Total Carbamazepine | 22-144-400128 | 00/00/0000 00:00 | 00/00/0000 00:00 | 00/00/0000 00:00 |
| Free Carbamazepine | 22-144-400128 | 00/00/0000 00:00 | 00/00/0000 00:00 | 00/00/0000 00:00 |
| Percent Free Carbamazepine | 22-144-400128 | 00/00/0000 00:00 | 00/00/0000 00:00 | 00/00/0000 00:00 |

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical

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