

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

Physician: Doctor, Example

Patient: Patient, Example

DOB: 3/10/1936
Gender: Male
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
Collection Date: 01/01/2017 12:34

Carbamazepine, Free and Total, Serum or Plasma

ARUP test code 2011763

Total Carbamazepine **14.8 ug/mL** H (Ref Interval: 4.0-12.0)

Free Carbamazepine **4.6 ug/mL** H (Ref Interval: 1.0-3.0)

Percent Free Carbamazepine 31.1 % (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?event=overview.process&varAppNo=016608>) 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
Tracy I. George, MD, Laboratory Director

Patient: Patient, Example
ARUP Accession: 20-131-106373
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
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VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Total Carbamazepine	20-131-106373	5/10/2020 5:23:00 AM	5/12/2020 2:34:35 PM	5/14/2020 2:34:00 PM
Free Carbamazepine	20-131-106373	5/10/2020 5:23:00 AM	5/12/2020 2:34:35 PM	5/14/2020 2:34:00 PM
Percent Free Carbamazepine	20-131-106373	5/10/2020 5:23:00 AM	5/12/2020 2:34:35 PM	5/14/2020 2:34:00 PM

END OF CHART

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

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