ARUP LABORATORIES
800-522-2787 | aruplab.com
500 Chipeta Way, Salt Lake City, UT 84108-1221
Tracy I. George, MD, Chief Medical Officer

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

Physician: Doctor, Example

Patient: Patient, Example

DOB	3/30/1947
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	01/01/2017 12:34

SLCO1B1, 1 Variant

ARUP test code 2008426

SLCO1B1, 1 Variant, Specimen	Whole Blood
SLCO1B1, 1 Variant,*5 Genotype	*5/Neg *

Indication for testing: predict simvastatin sensitivity.

Interpretation: One copy of the SLCO1B1*5 allele was detected; therefore, decreased transporter function is predicted. This patient is at increased risk for muscle toxicity related to simvastatin use. Symptoms of muscle toxicity may include pain, muscle weakness and cramps. Severe reactions may progress to severe muscle damage with secondary kidney injury.

Recommendations: The FDA recommends against 80 mg/d of simvastatin. Consider a lower dose, or alternate statin. Guidelines for genotype-based dosing are published by the Clinical Pharmacogenetics Implementation Consortium (CPIC) and can be found at: https://www.pharmgkb.org/gene/PA134865839

This result has been reviewed and approved by [redacted]

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

BACKGROUND INFORMATION: SLCO1B1, 1 Variant

CHARACTERISTICS: Simvastatin is a commonly prescribed hypolipidemic drug used for cholesterol reduction and control. Approximately 1-5 percent of exposed individuals may experience a dose-dependent myopathy (skeletal muscle toxicity). Symptoms may include pain, muscle weakness, and cramps. The organic anion transporter polypeptide 1B1, encoded by SLCO1B1, transports active simvastatin acid from the blood stream into the liver. This test detects a common variant that reduces the function of the transporter, resulting in an increased plasma concentration of the drug.
INHERITANCE: Autosomal co-dominant.
CAUSE: Simvastatin hypersensitivity reaction is strongly associated with the SLCO1B1*5 allele. The mechanism is related to changes in the activity of organic anion-transporter polypeptide 1B1 (OATP1B1). The *1 allele (normal transporter function) is presumed when the *5 allele is not detected. One copy of the *5 allele predicts decreased transporter function; two copies of the *5 allele predicts poor transporter function.
ALLELE TESTED: SLCO1B1*5 (rs4149056, c.521T>C).
ALLELE FREQUENCY: Middle Eastern 5 percent, Caucasian 1-3 percent, African 0-2 percent, Asian 0-2 percent, Less than 1 percent in other populations.
CLINICAL SENSITIVITY: Drug-dependent.
METHODOLOGY: Polymerase Chain Reaction (PCR) and Fluorescence Monitoring.
ANALYTICAL SENSITIVITY and SPECIFICITY: Greater than 99 percent.
LIMITATIONS: Only the targeted SLCO1B1 variant will be detected. Diagnostic errors can occur due to rare sequence variations. Risk of therapeutic failure or adverse reactions with statins may be affected by genetic and non-genetic factors that are not detected by this test. This result does not replace the need for therapeutic or clinical monitoring.

Please note the information contained in this report does not contain medication recommendations, and should not be interpreted as recommending any specific medications. Any dosage adjustments or other changes to medications should be evaluated in consultation with a medical provider.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement C: aruplab.com/CS

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
SLCO1B1, 1 Variant, Specimen	19-318-141957	11/14/2019 12:16:00 PM	11/16/2019 11:26:52 AM	11/21/2019 2:03:00 PM
SLCO1B1, 1 Variant,*5 Genotype	19-318-141957	11/14/2019 12:16:00 PM	11/16/2019 11:26:52 AM	11/21/2019 2:03:00 PM

END OF CHART

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