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PATIENT REPORT

Patient Age/Sex: Female

Specimen Collected: 12-Sep-23 13:28

SLCO1B1, 1 Variant | **Received: 12-Sep-23 13:30** **Report/Verified: 12-Sep-23 15:34**

Procedure	Result	Units	Reference Interval
SLCO1B1,1 Variant,Specimen	Whole Blood		
SLCO1B1,1 Variant,*5 Genotype	*1/*1 f1 i1		
EER SLCO1B1	See Note f2		

Result Footnote

f1: SLCO1B1, 1 Variant,*5 Genotype

Indication for testing: predict simvastatin sensitivity.

Interpretation: The SLCO1B1*5 allele was not detected; therefore, normal transporter function and typical risk for muscle toxicity related to simvastatin use is predicted.

Recommendations: Prescribe starting dose and adjust dose based on disease-specific guidelines. Guidelines for genotype-based dosing are published by the Clinical Pharmacogenetics Implementation Consortium (CPIC) and can be found at: https://cpicpgx.org/ and https://www.pharmgkb.org/.

This result has been reviewed and approved by [redacted]

f2: EER SLCO1B1
Authorized individuals can access the ARUP Enhanced Report using the following link:

[redacted]

Test Information

i1: SLCO1B1, 1 Variant,*5 Genotype
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.
ALLELES TESTED:

*1: Indicative of no detected targeted variants and an assumption of functional allele.

SLCO1B1*5 (rs4149056, c.521T>C).

Test Information

i1: SLCO1B1, 1 Variant,*5 Genotype

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.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.