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

Physician: Doctor, Example

Patient: Patient, Example

DOB	Unknown
Gender:	Unknown
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	00/00/0000 00:00

CYP2C8, CYP2C9, and CYP2C cluster

ARUP test code 3001501

2C8/2C9 Specimen	Whole Blood	
CYP2C8 Genotype	*1/*2	
CYP2C8 Phenotype	See Note	*
CYP2C9 Genotype	*1/*2	
CYP2C9 Phenotype	Intermediate	*
CYP2C Cluster Geno	Heterozygous	*
CYP2C Cluster Pheno	See Note	*
2C8/2C9 Interpretation	See Note	

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

The following CYP2C8 alleles were detected: *1/*2 The metabolizer phenotype is drug-dependent.

The following CYP2C9 allele(s) were detected: *1/*2. This result predicts the intermediate metabolizer phenotype, with an activity score of 1.5 of 2.

Recommendation: 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/.

One copy of the 2C cluster rs12777823 was detected. This variant is associated with reduced warfarin dose requirement in some individuals of African ancestry.

This result has been reviewed and approved by [redacted]

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BACKGROUND INFORMATION: CYP2C8, CYP2C9, and CYP2C cluster

Characteristics: The cytochrome P450 (CYP) isozymes 2C8 and 2C9 are involved in the metabolism of many drugs. Variants in the genes that code for CYP2C8 and CYP2C9 may influence pharmacokinetics of substrates, and may predict or explain non-standard dose requirements, therapeutic failure or adverse reactions. The CYP2C cluster variant (rs12777823) is associated with a decreased warfarin dose requirement in some people of African descent.
Inheritance: Autosomal codominant.
Cause: CYP2C8 and CYP2C9 gene variants and the CYP2C cluster variant affect enzyme function.
Variants Tested:
(Variants are numbered according to the following transcripts: CYP2C8 NM_000770, CYP2C9 NM_000771, and 2C cluster rs12777823).

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

CYP2C8*2: rs11572103, c.805A>T
CYP2C8*3: rs10509681, c.1196A>G
CYP2C8*4: rs1058930, c.792C>G

CYP2C rs12777823, g.96405502 G>A

CYP2C9*2: rs1799853, c.430C>T
CYP2C9*3: rs1057910, c.1075A>C
CYP2C9*4: rs56165452, c.1076T>C
CYP2C9*5: rs28371686, c.1080C>G
CYP2C9*6: rs9332131, c.818del
CYP2C9*8: rs7900194, c.449G>A
CYP2C9*11: rs28371685, c.1003C>T
CYP2C9*12: rs9332239, c.1465C>T

Clinical Sensitivity: Drug-dependent.
Methodology: Polymerase chain reaction (PCR) and fluorescence monitoring.
Analytical Sensitivity and Specificity: Greater than 99 percent.
Limitations: Only the targeted CYP2C8, CYP2C9 and CYP2C cluster variants will be detected by this panel, and assumptions about phase and content are made to assign alleles. Publicly available sources such as the www.pharmvar.org or www.pharmgkb.org provide guidance on phenotype predictions and allele frequencies. Diagnostic errors can occur due to rare sequence variations. Risk of therapeutic failure or adverse reactions with CYP2C8 or CYP2C9 substrates 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 drug 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.

EER CYP2C8 CYP2C9 CYP2C Cluster	See Note

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

[redacted]

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
2C8/2C9 Specimen	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CYP2C8 Genotype	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CYP2C8 Phenotype	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CYP2C9 Genotype	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CYP2C9 Phenotype	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CYP2C Cluster Geno	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
CYP2C Cluster Pheno	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
2C8/2C9 Interpretation	23-324-111370	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
EER CYP2C8 CYP2C9 CYP2C Cluster	23-324-111370	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