

BACKGROUND INFORMATION: CYP2C19

CHARACTERISTICS: The cytochrome P450 (CYP) isozyme 2C19 is involved in the metabolism of many drugs. Variants in the gene that codes for CYP2C19 will influence pharmacokinetics of CYP2C19 substrates, and may predict or explain non-standard dose requirements, therapeutic failure or adverse reactions.

INHERITANCE: Autosomal co-dominant.

CAUSE: CYP2C19 gene variants affect enzyme expression or activity.

VARIANTS TESTED:

(Variants are numbered according to NM_000769 transcript).

Negative: No variants detected is predictive of the *1 functional allele.

CYP2C19*2: rs4244285, c.681G>A
CYP2C19*3: rs4986893, c.636G>A
CYP2C19*4: rs28399504, c.1A>G
CYP2C19*5: rs56337013, c.1297C>T
CYP2C19*6: rs72552267, c.395G>A
CYP2C19*7: rs72558186, c.819+2T>A
CYP2C19*8: rs41291556, c.358T>C
CYP2C19*9: rs17884712, c.431G>A
CYP2C19*10: rs6413438, c.680C>T
CYP2C19*15: rs17882687, c.55A>C
CYP2C19*17: rs12248560, c.-806C>T
CYP2C19*35: rs12769205, c.12662A>G

CLINICAL SENSITIVITY: Drug-dependent.

METHODOLOGY: Polymerase chain reaction (PCR) and fluorescence monitoring.

ANALYTICAL SENSITIVITY AND SPECIFICITY: Greater than 99 percent.

LIMITATIONS: Only the targeted CYP2C19 variants will be detected by this panel, and assumptions about phase and content are made to assign alleles. Publically 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 CYP2C19 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.

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

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: 19-143-108991
Patient Identifiers: 01234567890ABCD, 012345
Visit Number (FIN): 01234567890ABCD
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| VERIFIED/REPORTED DATES | | | | |
|-------------------------|---------------|-----------------------|-----------------------|----------------------|
| Procedure | Accession | Collected | Received | Verified/Reported |
| 2C19GENO Specimen | 19-143-108991 | 5/23/2019 12:23:00 PM | 5/23/2019 12:28:12 PM | 5/23/2019 2:38:00 PM |
| CYP2C19 Genotype | 19-143-108991 | 5/23/2019 12:23:00 PM | 5/23/2019 12:28:12 PM | 5/23/2019 2:38:00 PM |
| 2C19GENO Interpretation | 19-143-108991 | 5/23/2019 12:23:00 PM | 5/23/2019 12:28:12 PM | 5/23/2019 2:38:00 PM |

END OF CHART

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