



Centrosomal Protein 72 (CEP72) Genotyping

CEP72 encodes a protein that is essential for microtubule formation. The chemotherapeutic drug vincristine exerts its cytotoxic effects by interfering with microtubule formation and mitotic spindle dynamics, leading to mitotic arrest and cell death. One specific sequence variant in CEP72 (T/T genotype) is associated with an increased risk and severity of vincristine-related peripheral neuropathy in individuals with acute lymphoblastic leukemia (ALL)¹⁻².

Alleles Detected

Reference sequence for SNP rs924607: C
 Variant sequence for SNP rs924607: T

Phenotype Categories

- Normal; Homozygous wild-type or heterozygous:** This allelic composition indicates either normal sequence of CEP72 or heterozygous (reference/variant) at the rs924607 loci. This phenotype includes individuals with two reference alleles (C) or one reference allele (C) and one variant allele (T).
Genotypes: C/C, C/T
- Abnormal; Homozygous variant:** This allelic composition is reflective of a homozygous (T/T) sequence variant at the rs924607 loci in the CEP72 gene. This genotype is associated with an increased risk and severity of vincristine-related peripheral neuropathy. In individuals with ALL, this effect may be different in the induction phase of treatment versus the continuation phase. Close clinical monitoring is recommended.
Genotypes: T/T

Limitations

The presence of other CEP72 variants that are not detected in this assay may influence drug metabolism. Additional variants that are not detected but located proximally to variants interrogated may affect the assay's ability to detect the above listed alleles.

Please consider all relevant patient information (including but not limited to additional medications, gender, weight, etc.) when making any dosing decisions.

Methodology

Real-time polymerase chain reaction with fluorescence detection.

Informed Consent

If required by your state, please obtain informed consent for genetic testing. Please document in the appropriate location on the test request form or order if informed consent has been obtained and filed.

Ordering

Test Name	CNT Panel
CPT Code	81335
Collection	3-5mL peripheral whole blood in EDTA tube Saliva in Oragene Dx, Part # OGD-500
Labeling	Must label with the patient name plus one additional unique identifier, such as date of birth, medical record number, or date of collection
Stability	Samples must be received by RPRD within 7 days of collection. Ambient or refrigerated storage is acceptable
Shipping	Ambient temperature. Ship for RPRD receipt on Monday through Friday only
Rejection	Blood sample may be rejected if frozen, hemolyzed, or clotted

About RPRD Diagnostics

RPRD Diagnostics specializes in providing innovative and end-to-end pharmacogenomics solutions, including diagnostic, analysis and consulting services to clinicians, researchers and drug developers. With decades of combined experience, RPRD's team of experts strives to improve patient lives using pharmacogenomics to enable precision medicine.

References

1. Diouf B, et al, JAMA. 2015 Feb 24;313(8):815-23.
2. Stock W., et al, Clin Pharmacol Ther. 2017; 101(3): 391-95.

For More Information

RPRD Diagnostics, LLC
1225 Discovery Parkway Ste 260
Wauwatosa, WI 53226
(414) 316-3097
info@rprdx.com
www.rprdx.com

CLIA ID Number: 52D2126222