

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

Physician: Doctor, Example

Patient: Patient, Example

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

Interleukin 28 B (IL28B)-Associated Variants, 2 SNPs

ARUP test code 2004680

IL28B-Assoc Variants, 2 SNPs Specimen whole blood

IL28B rs12979860 C/C

IL28B rs8099917 T/T

IL28B-Assoc Variants, 2 SNPs Interp See Note

IL28B rs12979860: Favorable Genotype C/C
 IL28B rs8099917: Favorable Genotype T/T

IL28B Interpretation:
 The favorable C/C genotype was detected for the IL28B-associated SNP rs12979860 and the favorable T/T genotype was detected for the IL28-B associated SNP rs8099917. Both genotypes are associated with a favorable treatment outcome or increased likelihood of sustained virologic response with peginterferon/ribavirin therapy for hepatitis C, genotype 1 (HCV-1). Both genotypes are also associated with increased likelihood of spontaneous HCV clearance.

Recommendations:
 Genotyping results should be interpreted along with clinical information. Other genetic and non-genetic factors may influence an individual's response to peginterferon/ribavirin HCV therapy. Genetic testing does not eliminate the need to monitor the clinical response to peginterferon/ribavirin therapy.

This result has been reviewed and approved by Pinar Bayrak-Toydemir, M.D., Ph.D.

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

BACKGROUND INFORMATION: Interleukin 28B-Associated Variants, IL28B, 2 SNPs

CHARACTERISTICS: Hepatitis C is an infectious disease that can result in cirrhosis, liver failure, and hepatocellular carcinoma in chronically infected individuals. Hepatitis C virus (HCV) is categorized into six genotypes; HCV genotype 1 (HCV-1) accounts for 75 percent of U.S. cases. Therapy for chronic infection consists of a combination of peginterferon (PEG-IFN alpha) and ribavirin (RBV), which is effective in eliminating HCV-1 in 40 to 50 percent of individuals. Single nucleotide polymorphisms (SNPs) rs12979860 C/T and rs8099917 T/G located upstream of the IL28B gene (encoding for lambda or type III interferons), have been associated with both spontaneous clearance and response to PEG-IFN alpha/RBV therapy in individuals infected with HCV-1. For SNP rs12979860, the CC genotype is associated with a two- to threefold greater rate of sustained virological response (SVR) following PEG-IFN alpha/RBV therapy, while the TC and TT genotypes are less likely to respond to treatment. For SNP rs8099917, the TT genotype is associated with a higher rate of SVR after PEG-IFN alpha/RBV therapy, while the GT and GG genotypes are less likely to respond to treatment and achieve SVR.

PREVALENCE: 4.1 million Americans (1.6 percent of the U.S. population) have anti-HCV antibodies.

ALLELE FREQUENCY: SNP rs12979860 favorable C allele: East Asian 0.90, Caucasian 0.75, Hispanic 0.70, and African American 0.50. SNP rs8099917 favorable T allele: Caucasian 0.75, Asian 0.88, and unknown in other ethnicities.

VARIANTS TESTED: SNP rs12979860 C/T and SNP rs8099917 T/G.

CLINICAL SENSITIVITY: Unknown.

METHODOLOGY: Polymerase chain reaction followed by single nucleotide extension (SNE) and capillary electrophoresis.

ANALYTICAL SENSITIVITY AND SPECIFICITY: 99 percent.

LIMITATIONS: SNPs other than those targeted will not be detected. Mutations in other genes and non-genetic factors that may affect response to hepatitis C therapy are not detected. For HCV genotypes other than type 1, the usefulness of these SNPs for predicting response to therapy is unknown. Diagnostic errors can occur due to rare sequence variations.

See Compliance Statement C: www.aruplab.com/CS

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
IL28B-Assoc Variants, 2 SNPs Specimen	19-294-122615	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
IL28B rs12979860	19-294-122615	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
IL28B rs8099917	19-294-122615	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
IL28B-Assoc Variants, 2 SNPs Interp	19-294-122615	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