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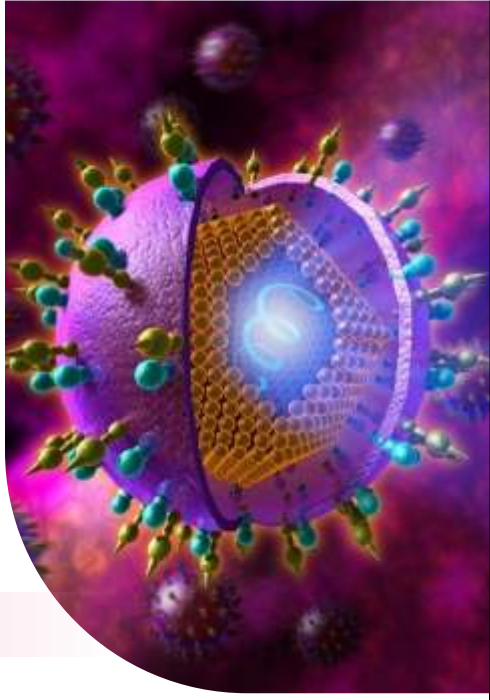


IL 28 B Polymorphism Detection

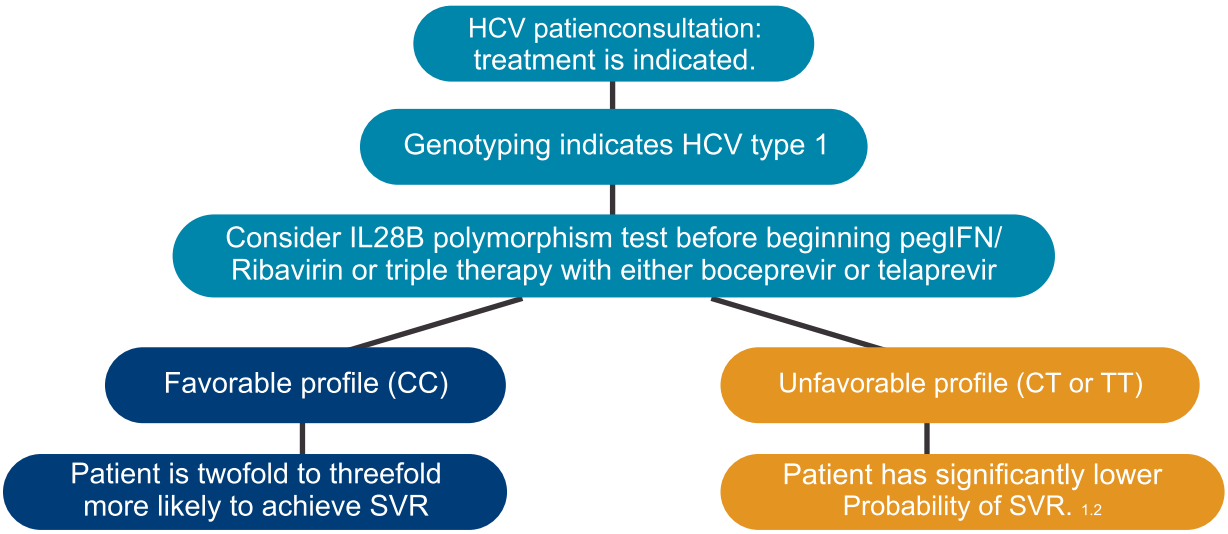
Department of Molecular Biology

The interleukin 28B (IL28 B) polymorphism assay supports individualized treatment decisions for patients with hepatitis C viral infection.

CLINICAL APPLICATION

- IL28B genotype has been shown to be the strongest predictor of baseline virologic **response** to pegylated interferon-α (pegIFN) plus ribavirin therapy in **HCV type 1-infected individuals**.[1]
- Two studies found that patients with the IL28B CC genotype are twofold to threefold more likely to have a sustained virologic response (SVR) than patients with a CT or TT genotype, regardless of race or ethnicity.[1,2]
- The CC genotype has also been associated with a threefold increase in the rate of spontaneous clearance of HCV.[3]
- Later studies also found this SNP to be an indicator of response to "triple therapy" – pegIFN/ribavirin with either boceprevir or telaprevir,4,5 and IL28B testing is now included in the 2011 AASLD guidelines as a consideration to help assess likelihood of treatment response or duration.[6]
- IL28B has been shown to be associated with treatment response in HIV/HCV co infected patients.[7]

IL28B Provides important information when considering pegIFN/ribavirin Therapy in HCV-1-infected Patients*



'Example patient care scenario

INTERPRETATION

CC Genotype:

An individual with *IL28B* CC genotype (ie, 2 copies of the C allele for the single-nucleotide polymorphism) **responds more to pegylated-interferon and ribavirin combination therapy**. Patients with CC genotype also show more spontaneous clearance of hepatitis C virus infection.

CT Genotype:

An individual carrying the *IL28B* CT genotype is **less likely to respond** to pegylated-interferon and ribavirin combination therapy.

TT Genotype:

An individual carrying the *IL28B* TT genotype **is less likely to respond** to pegylated-interferon and ribavirin combination therapy.

Specimen Required: EDTA – Blood (Purple top tube) – 4 ML

Turn Around Type: **7 working days**

Additional Hepatitis C Tests

Test Name	Method	Specimen	Turnaround Time
HCV Qualitative	Real Time-PCR	EDTA – Blood 4 ML	2 days
HCV Quantitative	Real Time-PCR	EDTA – Blood 4 ML	2 days
HCV Genotyping	PCR Sequencing	EDTA – Blood 4 ML	10 days

References

1. Thompson AJ, Muir AJ, Sulkowski MS, et al. Interleukin-28B polymorphism improves viral kinetics and is the strongest pretreatment predictor of sustained virologic response in genotype 1 hepatitis C virus. Gastroenterology. 2010;139:120-129.
2. Ge D, Fellay J, Thompson AJ, et al. Genetic variation in IL28B predicts hepatitis C treatment- induced viral clearance. Nature. 2009;461:399-401.
3. Thomas DL, Thio CL, Martin MP, et al. Genetic variation in IL28B and spontaneous clearance of hepatitis C virus. Nature. 2009;461;798-801.
4. Poordad F, Bronowicki JP, Gordon SC, et al. Factors that predict response of patients with hepatitis C virus infection to boceprevir. Gastroenterology. 2012;143(4):608-618. Available at: http://www.ncbi.nlm.nih.gov/pubmed/22626609
5. Jacobson IM, Catlett I, Marcellin P, et al. Telaprevir substantially improved SVR rates across all IL28B genotypes in the ADVANCE trial. Presented at: The International Liver Congress 2013: Amsterdam, the Netherlands.
6. 6. Ghany MG, Nelson DR, Strader DB, Thomas DL, Seeff LB. An update on treatment of genotype 1 chronic hepatitis C virus infection: 2011 Practice Guideline by the American Association for the Study of Liver Diseases. Hepatology. 2011;54(4):1433-1444.

For more information, please contact your unipath representative or call 079-49006831 or email on: unipathmdx@gmail.com

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