Hepatitis C Virus Molecular Test

HCV Detection • Viral Load Measurement
Early Diagnosis • Better Clinical Management
HCV-Hepatitis C Virus
The HCV is a small, enveloped, single-stranded, positive-sense RNA virus. This virus can replicate both in liver cells and lymphocytes, hence affecting hepatic system as well as immune system. HCV is responsible for chronic infection in liver and may lead to liver failure.

HCV infection spreads through contact with contaminated blood - most commonly through needles shared during illegal drug use, poorly sterilized medical equipment and transfusions.

Hepatitis C and Clinical testing
Testing for hepatitis C infection in people who have a high risk of coming in contact with the virus may help doctors begin treatment or recommend lifestyle changes that may slow liver damage. Clinical tests such as enzyme blood tests, Immunoassay (IA) and Recombinant Immunoblot Assay (RIBA) are available for HCV infection. HCV molecular testing is strongly recommended for individuals with unexplained, unusual liver function test result. Molecular HCV test looks for the HCV virus itself (often called an HCV RNA or viral load). This test will detect the HCV virus and become positive after incubation time, so it is an important diagnostic test in HCV infection.

Importance of Molecular testing in HCV infection
Conventional methods like immunoassay (IA) and RIBA gives only confirmation of hepatitis C virus infection. It is important to get quantitative values about copies of HCV RNA before initiation of treatment for chronic HCV infection. This test measures the amount of HCV in your blood plasma. The viral load in sample provides information on the risk of disease progression and establishes a baseline for assessing the effect of Anti-Retroviral Treatment and further monitors response to therapy.

It predicts likelihood of response to therapy and also resistant variants during antiviral therapy. Viral quantification of HCV by Real-Time PCR will determine if there is sufficient virus to perform the resistance test. Persons who have been infected with hepatitis C may appear to clear the virus but remain infected. The virus is not detectable with conventional testing but can be found with ultra-sensitive tests.

Why go for molecular testing?
High Specificity and Precision: Molecular testing can detect and measure presence of minimal residual gene mutation or protein associated with disease condition which cannot be done by conventional biochemical testing, thus reveals precise cause of disease.

High sensitivity and accuracy: Molecular testing can determine minimum viral load in the sample up to lacs of virus copies that nullifies the chances of false positive or false negative results, thereby reducing chances of incorrect diagnosis.

Early diagnosis and efficacy: Molecular diagnosis can detect disease at early stage which helps clinicians to monitor the progression of disease and determine effective drug therapy for the patient.
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**Real Time PCR for Detection & Viral Load Measurement**
Currently RT PCR method is used for detection of viral load. In this method patient's plasma sample is tested to measure viral load. RT PCR results provides information on number of HCV-RNA copies/ml in the sample. This results indicates the stage and seriousness of disease condition. At Xcelris Labs, we use artus HCV RG RT-PCR Kit on QIAsymphony platform to measure viral load i.e. notify RNA copies in HCV positive patient sample. It is fully automated system right from sample preparation to assay set up and sample testing. The analytical detection limit of artus HCV RG RT-PCR Kit is 21 IU/ml. The detection range for this test is 21 IU/ml to 170 lacs IU/ml.

**Test Methodology**

1. Sample procurement (Plasma sample shipped at -20 degree)
2. Subject sample to QIAsymphony instrument
3. Automated RNA extraction
4. Purification of Nucleic acids
5. Fully automated process on QIAsymphony
6. artus HCV RG RT-PCR Kit
7. Detection of HCV
8. Detection of viral load (If ordered)
Sample Requirement: 5-8ml isolated plasma sample

Specimen Handling: Deep freeze the sample until shipment.

Note: Samples from heparinized humans must not be used.

Transport: Isolated plasma samples should be shipped to Xcelris Labs in labeled polypropylene tubes at -20 degree.

Unacceptable conditions:
Plasma samples shipped below -20 degree or received at room temperature will be unacceptable.

Turn Around Time: 3-4 working days after receiving of sample at our lab.

How to Order Test?:
You can order test with following product code

- **IDHC05** Confirmation Test
- **IDHCQ05** Viral Load Test

Contact our Local Representative or email us at diagnostics@xcelrislabs.com

About Xcelris
Xcelris is one of the leading genomic research organizations and service provider offering cutting edge solutions to the life science industry and research institutions.

Xcelris Molecular Diagnostics (XMDx) offers clinical testing services based on Real time PCR, Sequencing and Microarray technology using latest state of art platforms. Xcelris Labs provides genetic testing for cancer, inherited disorders, drug response screening and molecular testing for infectious diseases.

At Xcelris, we believe that Next Generation Sequencing Technology will be a break through in the diagnostic segments by which clinicians will be able to track diseases at early stages, making clinical management more effective and easy.