Hepatitis C

General:

Hepatitis C virus particles reflect about 90% of those hepatitidae, which were earlier described as non-A and non-B. The incubation period is 6-12 weeks, the infection occurs parenterally. In more than 50% of affected patients, chronic slow progressive hepatitis can develop. Groups at risk are i.v. drug-addicted persons or persons receiving blood or blood products (e.g. dialysis), organ transplant recipients as well as close contact to infected persons (rare). Transmission is possible through needle injury or sexually (rare). Hepatitis C virus infections are frequent in Arabic countries, especially in Egypt. HCV during pregnancy: mother child transmission is possible with approx. 5% transmission rate, however, no malformation and premature delivery have been observed so far. A Cesarean section does not reduce the infection risk. So far HCV transmission through breastfeeding has not been described.

Serology: hepatitis C antibodies are traceable earliest 3-4 weeks after infection.

Genotyping: hepatitis C RNA can be tested for earlier, after determination of HCV genotype, IL-28B genotype can also be determined. This will give an indication of responsiveness of the virus to interferon treatment. (Ge D et al., Genetic variation in IL28B predicts hepatitis C treatment-induced viral clearance. Nature. 2009 Sep 17; 461(7262): 399-401.)

The following tests are available:

- **Hepatitis C antibodies, HCV antibodies**

Indication:	Hepatitis screening, unclear increase of transaminases
Material:	1 ml serum
TAT:	same day, FML
Stability:	7 days at 2 to 8°C
Method:	ECL
Units:	S/CO
Ref.- range:	<1.0
Note:	Hepatitis C Abs should be confirmed by HCV-RNA testing with genotyping see **Hepatitis C-RNA genotyping** If the patient is taking multivitamins or dietary supplements containing high dose of Biotin (> 5 mg), the patient should stop taking it for at least 24 hours , before having the blood collection.

- **Hepatitis C RNA, quantitative virus load**

Indication: Suspicion of hepatitis C, positive hepatitis C antibodies, therapy monitoring (virus load)

Preanalytics: for dispatch please do not freeze EDTA blood! Debris of erythrocytes will disturb the measurement. Alternative material is erythrocyte-free EDTA plasma, which can be dispatched frozen in an additive-free vial. Please use additional vials for other requested tests, as opening of the vial and splitting the samples can lead to contaminations and therefore to false posi-tive results.

Material: at least 3 ml EDTA blood**

TAT: 7 -10 days*

Method: Cobas Ampliprep/ Taqman PCR

Ref. - range: see report

- **Hepatitis C RNA genotyping**

Indication: Clarification of the genotype in positive hepatitis C-RNA replication

Preanalytics: Due to the usage of internal standards which guarantee an accurate result, the testing of HCV (especially during treatment) without internal standard is not allowed under accreditation conditions!

Material: at least 3 ml EDTA blood**

TAT: 7 -10 days*

Method: PCR

Ref.- range: see report

- **IL-28B genotyping**

Indication: To determine effectiveness of potential interferon treatment.The IL-28B gene is also known as interferon lambda and located on chromosome 19. One single nucleotide polymorphism (SNP) at position rs12979860 shows 3 possible genotypes C/C, C/T, T/T.

Material: 5 ml EDTA blood**

TAT: 7 -10 days*

Method: PCR

Genotypes: **C/C –** Patients with chronic HCV-infection genotype 1, which are homozygous for the C-allele have a significant better SVR (sustained virological response, up to 80%) than others with T/T-genotype (SVR up to 30%) and responds more to pegylated-interferon and ribavirin combination therapy. **C/T** – no effect

on pegylated-interferon and ribavirin combination therapy. **T/T** – no effect on pegylated-interferon and ribavirin combination therapy.

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For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit http://www.fml-dubai.com/parameter-listings/