Cholinesterase

General:

Cholinesterase consists predominantly of pseudocholinesterase and is synthesized in the liver. Its function is to split short-chain fatty acids (cholinesters). CHE is found in RBCs, plasma and in neuromuscular junctions in the muscle. Cholinesterase is also traceable in amniotic fluid **(see also Cholinesterase in amniotic fluid).** In neuromuscular junctions CHE inactivates acetylcholine which is produced by motoneurons thus leading to muscle relaxation. Reduction of functional liver parenchyma (cirrhosis) results in decreased CHE levels which could be dangerous during anesthesia (prolonged muscle relaxation). Compensatory CHE elevation is found in chronic protein loss or kidney disorders.

Indication:	Hepatopathy, intoxications, pre-operative profile
Material:	1 ml serum
Stability:	7 days at 2 to 8°C
TAT:	same day, FML
Units:	U/l
Method:	enzyme kinetic
Ref.- range:	adult : 5320 – 12920

- **Dibucaine inhibition of cholinesterase**

General:

The enzyme pseudo-cholinesterase has importance for the administration of muscle relaxants during general anesthesia. The short effect of the two relaxants Mivacurium and Suxamethonium is due to the fast biotransformation of the drugs in the plasma (Mivacurium in approximately 4 min, Suxamethonium half reduced in approximately 1 min). The function (activity) of the enzyme is measured by the so-called Dibucaine ratio by adding Dibucaine to the plasma.

Pseudo-cholinesterase deficiency: lack of pseudocholinesterase, i.e. with heavy liver malfunction, malignomas, pregnancy as well as the existence of a genetically atypical form of the enzyme (PCHE-deficiency). PCHE-deficiency results in delayed biotransformation of the mentioned relaxants. The patients show extended respiratory paralysis.

Material:	1 ml serum
TAT:	7-10 days*
Method:	photometric
Ref.- range:	see report

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