

Cholinesterase

Synonyms

Pseudocholinesterase, scoline sensitivity, butyrylcholinesterase.

Clinical Indication

Butyrylcholinesterase is an enzyme responsible for the metabolism of the muscle relaxants suxamethonium (scoline) and mivacurium that shows a great deal of genetic variation. Some variants lead to an effective enzyme deficiency which impairs an individual's ability to metabolise the drugs and leads to prolonged paralysis and apnoea.

Part of Profile / See Also

Request Form

Combined Pathology manual Blood form or ICE request

Availability / Frequency of Analysis

Analysed by Clinical Biochemistry, Severn Pathology, North Bristol NHS Trust if specific criteria met. 8071.

Turnaround Time

4 Weeks

Patient Preparation

Do not take samples during apnoea or within 24 hours of suxamethonium administration. If FFP or cholinesterase preparations have been given, then wait 6 weeks before taking sample.

Sample Requirements

Specimen Type

EDTA whole blood

Volume

4 ml

Container



Pink top (EDTA) tube



Or Paediatric red top (EDTA) tube



Or Paediatric pink top (EDTA) tube

Reference Range & Units

Plasma cholinesterase activity and cholinesterase phenotype, which is determined using enzyme inhibition studies

The cholinesterase activity and phenotype are reported with appropriate interpretative comments.

Interferences

Samples collected during suxamethonium-induced apnoea are not suitable for the measurement of activity or the determination of phenotype as the presence of the drug leads to anomalously low activity results

Interpretation & Clinical

Decision Value (if applicable)

All reports are issued with interpretative comments and an assessment of risk (of suxamethonium sensitivity). Warning cards are issued for patients likely to be sensitive to suxamethonium and recommendations given with the report on the need for family studies.

References

<https://www.nbt.nhs.uk/severn-pathology/pathology-services/clinical-biochemistry/cholinesterase>
<https://www.nbt.nhs.uk/severn-pathology/requesting/test-information/cholinesterase-studies>

Test code

ACHO

Lab Handling

Whole blood stored at 4°C sent to Bristol by Royal Mail.

