ORDER INFORMATION

CODE : DL3101 - R1 - 1 X 8 ML + R2 - 1 X 2 ML
DL3102 - R1 - 1 X 20 ML + R2 - 1 X 5 ML

DELTA CHOLINESTERASE

Butyrylthiocoline potassium hexacyanoferrate (III) method

INTENDED USE :

This reagent kit is intended for ***"in vitro"*** quantitative determination of Cholinesterase activity in serum / plasma.

CLINICAL SIGNIFICANCE :

Cholinesterase measurements are used as a test of liver function, as an indicator of organophosphate insecticide poisoning, and as a means to investigate atypical, weakly active variants of the enzyme. A decreased level of enzyme activity is an indication of any of the above conditions. The test is also used to identify patients with low enzyme activity who may enter a period of prolonged apnea following the administration of succinylcholine, a drug used as a muscle relaxant in surgery.

PRINCIPLE :

Butyrylthiocholine is hydrolyzed by cholinesterase to produce thiocoline in the presence of potassium hexacyanoferrate (III), the absorbance decrease is proportional to the cholinesterase activity of the sample.

REAGENT COMPOSITION :

Reagent 1 : Buffrer Reagent
Reagent 2 : Butyrylthiocholine iodide Reagent Reagent

MATERIALS REQUIRED BUT NOT PROVIDED :

- Clean & Dry Glassware.
- Micropipettes & Tips.
- Colorimeter or Bio-Chemistry Analyzer.

SAMPLES :

Serum free of hemolysis. Heparin or EDTA plasma.

WORKING REAGENT PREPARATION & STABILITY :

Mix 4 Volume of Reagent 1, with 1 Volume of Reagent 2.
Working Reagent is stable for 30 days at 2°- 8°C.

GENERAL SYSTEM PARAMETERS :

Reaction type	Kinetic Reaction
Wave length	405 nm
Light Path	1 Cm
Reaction Temperature	37°C
Blank / Zero Setting	With Distilled Water
Reagent Volume	1ml
Sample Volume	15 µl
Lag / Delay Time	60 Sec.
Read Time	90 Sec.
Interval Time	30 Sec.
Factor	73000
Low Normal at 37°C	4850 U/l
High Normal at 37°C	12000 U/l
Linearity	12000 U/l
Max. Δ Abs / Min	0.164

ASSAY PROCEDURE :

Working Reagent	**1000 µl**
Sample	**15 µl**

Mix and after 60 second incubation, measure the decrease in absorbance every 30 second interval during 90 seconds at 37°C.

Determine the ΔA/min.

CALCULATION :

At 405 nm with 1cm Light path

CHOLINESTERASE Activity (U/l) = Δ A/min. x 73000

LINEARITY :

Reagent is Linear up to 12000 U/l
Dilute the sample appropriately and re-assay if Cholinesterase Activity exceeds 12000 U/l or Δ Abs / min Exceeds 0.164 . Multiply result with dilution factor.

REFERENCE NORMAL VALUE :

4850 to 12000 U/l

The reference values are only indicative in nature. Every laboratory should establish its own normal ranges.

QUALITY CONTROL :

For accuracy it is necessary to run known controls with every assay.

LIMITATION & PRECAUTIONS :

1. Storage conditions as mentioned on the kit to be adhered.
2. Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
3. Before the assay bring all the reagents to room temperature.
4. Avoid contamination of the reagent during assay process.
5. Use clean glassware free from dust or debris.
6. Reagent to sample ratio as mentioned here above must be strictly observed as any change in to it will effect the factor.
7. Higher AST/GOT values may induce falsely low result due to depletion of the substrate (total consumption of NADH before reading of the result). If an analyzer is used verify the presence of depletion factors on application.

BIBLIOGRAPHY :

Knedel, B., Boettger R., Klin. Wschr., (1967), 45, 325.
Arbeitsgruppe enzyme der Deutschon Gesellschaft fur Klinische Chemie (1989)
Mitt Dtsch Ges Klin Cheni PS20PS, 123-124.

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