N BIO - CHOLINESTERASE

(Kinetic method)

KIT NAME	KIT SIZE	CAT. NO
N BIO - Cholinesterase	2 x 50 ml	DCHE02050M

INTRODUCTION

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.

METHOD PRINCIPLE

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

KIT CONTENTS

Reagent name	DCHE02050M
R1 CHE reagent	2 x 40 ml
R2 CHE reagent	2 x 10 ml

The reagents when stored at 2-8°C are stable up to expiry date printed on the package. The reagents are stable for 3 weeks on board the analyser at 2-10°C. Protect from light and avoid contamination.

WORKING REAGENT PREPARATION AND STABILITY

Assay can be performed with use of separate 4 parts of R1-CHE and 1 part of R2-CHE reagents Avoid foaming.

ADDITIONAL EQUIPMENT

- **Automatic analyzer or photometer able to read at 405 nm**
- **Thermostat at 37°C**
- **General laboratory equipment**

SPECIMEN

Serum, heparinized plasma may be assayed. Venous blood should be collected and handled anaerobically. Do not use citrate or oxalate as anticoagulant.

PROCEDURE

These reagents may be used both for manual assay and in several automatic analyzers. **Programme Sheets are availabl** e on request.

Wavelength 405 nm
Temperature 37°C
Cuvette 1 cm

Pipette into the cuvette:

Reagent	Test (T)
R1 CHE reagent	800 µl
R2 CHE reagent	200 µl
Bring to assay temperature, then add	
Sample	15 µl

Mix well and after 60 secs incubation, measure the absorbance the decrease in absorbance every 30 secs interval for 3 readings and calculate the ΔA/min at 37 C.

CALCULATION

Cholinestrase concentration U/L = ΔA/min x 66000(factor)

REFERENCE VALUES

4850 to 12000 U/L

It is recommended for each laboratory to establish its own reference ranges for local population.

QUALITY CONTROL

To ensure adequate quality control, each run should include assayed normal and abnormal controls. If commercial controls are not available it is recommended that known value samples be aliquoted, frozen and used as controls

PERFORMANCE CHARACTERISTICS

•**Linearity:** up to 15000 U/l. Dilute the sample approximately and re-assay if CHE activity exceeds 15000 U/L. Multiply result with dilution factor.

LITERATURE

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

SYSTEM PARAMETERS

Method	Kinetic
Wavelength	405 nm
Zero Setting	distilled water
Temperature Setting	37°C
Incubation Temperature	37°C
Incubation Time	----
Delay time	60 secs
Read time	90 secs
No. of Reading	3
Interval time	30 secs
Sample Volume	0.015 ml (15 µl)
Reagent Volume	1.0 ml (1000 µl)
Standard Concentration	----
Units	U/L
Factor	66000
Reaction slope	Decreasing
Linearity	15000 U/L

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