ESTROM CK-NAC (Lypho)

(Kinetic Nac Activated Method)

ANGSTROM BIOTECH PVT. LTD

This reagent kit is for quantitative estimation of Creatine Kinase activity in serum.

PRINCIPLE:

Creatine Kinase present in the sample catalyses the conversion of creatine phosphate and ADP to release creatine and ATP.ATP phosphorylates glucose. Glucose 6 Phosphate Dehydrogenase oxidises the glucose 6 phosphate to 6 phosphogluconate which in turn reduces NADP to NADPH. The increase in absorbance is measured at 340 nm and is proportional to the activity of creatine kinase.

Creatine Phosphate + ADP **Creatine Kinase** Creatine + ATP

ATP + Glucose **Hexokinase** G-6-P + ADP

Glucose-6-Phosphate+NADP **Glucose-6-Phosphate DH**

6-Phosphogluconate + NADPH + H

CLINICAL SIGNIFICANCE:

Creatine Kinase is present in skeletal muscles, cardiac muscles and in the brain. Estimating the level of creatine kinase is an important diagnostic parameter while following myocardial infarction. CK activity begin to rise about 4-6 hours following myocardial infarction and peak values are attain after 24 - 30 hours and returns back to normal within 2-3 days.

Since the liver contains no CK, an elevated CK level helps in differentiating myocardial infarction from congestive heart failure and other conditions causing damage to the liver.

SPECIMEN COLLECTION AND STORAGE:

✶ Serum sample is preferred.

REAGENTS:

All the reagents are to be stored at 2-8^0 C.

	No. of bottles	
	12x1.1 ml	5x10 ml
Reagent 1 (Substrate)	12	5
Reagent 2 (Buffer)	1	5

PRECAUTION:

✶ CK-NAC reagent is for In Vitro diagnostic use only.

REAGENT RECONSTITUTION:

A) 12x1.1 ml: One vial of Reagent 1(Substrate) is to be dissolved in 1.1 ml of Reagent 2 (Buffer).

B) 5x10 ml: Dissolve 1 vial of Reagent 1 (Substrate) using 10 ml of Reagent 2 (Buffer).Mix gently.

Mix gently. Keep for 5 minutes before use. Reconstituted reagent may be stored at 2-8^0 C, protected from light when not in use.

REAGENT STORAGE AND STABILITY:

All the reagents are stable up to expiry date stated on the label. Buffered substrate when stored at 2-8^{0}C in a dark coloured bottle is stable for 5 days.

GENERAL INSTRUMENT PARAMETERS:

Reaction Type	: Kinetic
Slope of Reaction	: Increasing
Wavelength	: 340 nm
Flowcell Temperature	: 37^0 C
Reagent Volume	: 1.0 ml
Sample Volume	: 50 µl (0.05ml)
Delay Time	: 120 seconds
Interval	: 30 seconds
No. of readings	: 3
Factor	: 3376
Units	: IU/L
Zero Setting	: Distilled water
Path length	: 1.0 cm

PROCEDURE:

Allow the sample and reagent to attain room temperature prior to use.

Dispense into test tubes	Test
Working Reagent	1.0 ml
Sample	50 µl

Mix. Immediately and read first absorbance of test at 120 seconds then second and third absorbance at an interval of 30 seconds at 340 nm. Obtain the mean change in absorbance per minute (ΔA/min.)∀

LINEARITY:

This method is linear for CK-NAC activity up to 1000 IU/L. For sample values exceeding the linearity limit, dilute the sample suitably with normal saline and repeat the assay. Apply proper dilution factor while calculation.

CALCULATION:

Concentration of CK-NAC in sample (IU/L) : ΔA∀k g, v D_amp
Factor = 3376

REFERENCE VALUES:

Men : 25-200 IU/L at 37^0 C.
Women : 25-170 IU/L at 37^0 C.

It is recommended that each laboratory establish its own reference values.

BIBLIGRAPHY

✶ TIETZ N., (ed). Fundamentals of Clinical Chemistry. W.B. Saunders Co., Philadelphia PA 1976.

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	Attention,see instructions for use		Consult Instructions For Use
IVD	For in vitro diagnostic use only	REF	Catalog #
2°C 8°C	Store between 2-8°C	LOT	Lot Number
	Do not use if package is damaged		Date of Manufacturing
	Manufacturer		Use by