CREATININE K

PRINCIPLE

Creatinine reacts with Alkaline Picrate to produce a Red colored
complex the rate of red colored complex formation is directly proportional to the Creatinine concentration

CLINICAL SIGNIFICANCE

Serum Creatinine determination is mainly used for the diagnosis of rental diseases. Creatinine is an endogenous NPN (NON Protein Nitrogen) waste product of the body excreted through kidney. Creatinine, after filtration in the glomerulus, is not reabsorbed in the tubules and hence urine Creatinine measures glomerular filtration rate (GFR). Urine creatinine determination is usually carried out as a part of Creatinine Clearance Test (CCT).

SAMPLE COLLECTION

* Serum plasma or urine can used.
* Urine should be of 24 hours collection. Dilute Urine specimen 1:100 using distilled water before use.
* Hemolysed or lipemic serum should not be used, as it may give erroneous results.
* Creatinine in serum is stable for at least two days at room temperature and one week at 2-8°C or much long at 200°C.

PRECAUTIONS

- picric acid reagent : do not pipette by mouth
- Adherence to the reaction time is very critical and should be followed meticulously.
- For urine Creatinine estimation make sure to dilute urine sample 1:100.

KIT CONTENTS &STORAG 2x50ml

1. PicricAcid Reagent 50 ml 1Bottlel.
2.Alkaline Buffer Reagent 50 ml 1Bottle.
3.Standard (2 mg%) 2 ml 1Vial

The reagents are stable at room temperature till the expire date mentioned on the label

REAGENT PREPARATION

Mix equal volumes of Picric Acid Reagent (1) & Alkaline Buffer Reagent (2). Working Reagent Is stable for 10 days In a Brown Bottle at room temperature.

SYSTEM PARAMETERS

Reaction Type	:	Kinetic
Wave Length	:	520 (500530)nm
incubation Temp	:	37°C
Incubation Time	:	30 Secs
Read Time	:	60 Secs
No.of readings	:	2
Sample Volume	:	100µ1
Reagent volume	:	1ml
Standard	:	2 mg%
Linearity	:	20 mg%
Unit	:	mg/dl

PROCEDURE

Pipette in a clean dry test tubes labeled Test (T)

Working Reagent	1ml
Standard/Sample	100µl

Mix well and start stopwatch. Read initial absorbance A0 , exactly after 20 seconds for test and for standard. Read another
absorbance A1 for test and for standard exactly after 80 seconds. Calculate change in absorbance for Test and Standard.

For Test $AT=A_1T-A_0T$; For Standard $AS=A_1S-A_0S$
Calculations Abs 0f Test/Abs of standard x Conc of Std (2 mg/dl)
A) Serum Creatinine Conc mg/d|=

LINEARITY

This method is linear up to 20 mg%. Sample exceeding 20 mg% should be diluted and re-assayed. The result has to be multiplied by the dilution factor

EXPECTED VALUES

		Serum
Females	:	0.5 – 0.9 mg/dl
Males	:	0.6 – 1.5 mg/dl

Due to variation in inter-laboratory assay conditions, instruments and demography, it is recommended that each laboratory should establish its own normal range.

BIBLIOGRAPHY

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