

This reagent kit is for quantitative estimation of Creatinine in serum or urine.

PRINCIPLE:

The coloured complex is formed when creatinine present in serum or urine reacts with alkaline picrate, Intensity of colour is measured at 510nm. & it corresponds to creatinine concentration.

Creatinine + Alkaline Picrate → Creatinine Picrate Complex

CLINICAL SIGNIFICANCE:

Congestive heart failure, shock or mechanical obstruction of urinary tract, kidney failure or muscular dystrophy can lead to increase in serum or plasma creatinine. Creatinine clearance is calculated from urine & serum or plasma creatinine values that give an indication of kidney function. But serum creatinine levels do not rise until renal function has decreased by 50 percent.

SPECIMEN COLLECTION & STORAGE:

- Fresh, clear, unhemolysed serum is preferred.
- Heparinised plasma may also be used.

PRECAUTION:

- Estrom creatinine is for In Vitro diagnostic use only.
- Contact of reagent with skin, eyes, & clothes should be avoided.

Reagents:

Pack Size		2x 50 ml	4 x 50 ml
Picric Acid Reagent	50 ml	1	2
Alkaline Reagent	50 ml	1	2
Creatinine Std. (2 mg/dl)	5 ml	1	1

PREPARATION OF WORKING REAGENT:

Prepare working reagent by mixing 1 volumes of reagent Picric Acid to 1 volume of reagent 2 Alkaline Reagent. Mix well before use.

Storage and Stability of the reagents:

All the reagents in the kit are stable at Room Temperature until expiry date stated on the labels.

GENERAL INSTRUMENT PARAMETERS:

Reaction Type	: Two Point Kinetic
Reaction Direction	: Increasing
Sample Volume	: 50 µl
Reagent Volume	: 1000 µl
Wave Length	: 505 nm (500-520 nm)
Standard Conc.	: 2.0 mg/dl
Flow Cell Temp.	: 37°C
Zero setting with	: Distilled Water
Units	: mg/dl
Delay	: 30 sec.
Fixed Read Time	: 90 sec
Low Normal	: 0.6
High Normal	: 1.6
Linearity	: 20.0 mg/dl

PROCEDURE:

Sample deproteinization is not required.
For instrument using 1 ml cuvette capacity.

Dispense into test tubes	Standard (STD)	Test (TS)	Reaction Temp.
Working Reagent	1ml	1ml	37°C
Sample		50 µl	
Standard	50 µl		

Mix & aspirate. Record the absorbance of test (TS) and standard (STD) at 30 seconds (TS₁, ST₁) & again at 90 sec (TS₂, ST₂) at 510 nm, against distilled water.

TEST RESULTS:

$$\text{Creatinine Concentration (mg/dl)} = \frac{TS_2 - TS_1}{ST_2 - ST_1} \times 2 \text{ (Standard Concentration)}$$

To convert (mg/dl) to micromole/lit, use the following equation:
micromole / liter = 88.5 x mg/dl.

NORMAL VALUE: Serum Creatinine
MEN = 0.6 – 1.6 mg/dl
WOMEN = 0.6 – 1.4 mg/dl

CREATININE CONCENTRATION IN URINE:

For creatinine estimation in urine, dilute the sample suitably with distilled water and follow the procedure to calculate test results by applying dilution factor. A dilution of 1:50 or 1:100 can be done.

Creatinine concentration in Urine (gm/lit) =

$$\frac{TS_2 - TS_1}{SDT_2 - SDT_1} \times 2 \times 100 \text{ (Dilution Factor)}$$

NORMAL VALUES:

Urine Creatinine MEN = 1 – 2.0 gms / 24 hrs.
WOMEN = 0.8 – 1.8 gms / 24 hrs.

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

LINEARITY:

This method is linear up to 20 mg/dl. For sample values higher than the linearity limit, dilute the sample suitably with 0.9% saline and repeat the assay. Apply proper dilution factor to calculate the final result

BIBLIOGRAPHY:

- Henry, R. J. Conon, D. C. Winkelmon. J. W. Clinical chemistry. Principles & Technics. Harper and Row, 2nd Edition (1974)
- Kalpan A., Sazabo, L. L., Clinical Chemistry. Interpretation and Techniques, Lee and Febiaer, Philadelphia.

Angstrom Biotech Pvt.Ltd.
G1 - 1035, RIICO Industrial Area
Phase - III, Bhiwadi,
Alwar, Rajasthan.
Pin Code - 301019
Email: info@angstrombiotech.in
Website: www.angstrombiotech.in
Customer Care Number - 9599194831

	Attention, see instructions for use		Consult Instructions For Use
	For in vitro diagnostic use only		Catalog #
	Store at RT		Lot Number
	Do not use if package is damaged		Date of Manufacturing