

CREATININE



KINETIC METHOD – JAFFE REACTION (without deproteinisation)

REF NO DESCRIPTION CS604 CREATININE

PAKAGE SIZE

| CS 604-1 | 2 X 500 ML | CS 604-5 | 2 X 50 ML |
|----------|------------|------------|-----------|
| CS 604-2 | 2 X 200 ML | CS 604R1-5 | 5 L |
| CS 604-3 | 6 X 50 ML | CS 604R2-5 | 5 L |
| CS 604-4 | 2 X 100 ML | | |

INTENDED USE

This reagent is intended for in vitro quantitative determination of Creatinine in serum & plasma

INTENDED USER: Professional Use Only

CLINICAL SIGNIFICANCE

Creatinine is formed in muscles from Phospho Creatinine. It is an important form of energy, being a store of high-energy phosphate. Creatinine determinations have one advantage over Urea determination that it is not affected by a high protein diet.

Serum Creatinine is more specific & sensitive indicator of renal function. Simultaneous estimations of serum Urea & Creatinine provide better information. Serum Urea nitrogen, Creatinine ratio is > 15 in pre renal failure, & < 10 in renal failure.

Decreased levels are found in muscle dystrophy.

Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

PRINCIPLE

In the Jaffe reaction, Creatinine react with alkaline picrate to produce a reddish - orange color the intensity of which at 490 nm is directly proportional to the Creatinine concentration.

Alkali

Creatinine + sodium picrate -----> Creatinine - picrate complex (reddish orange color)

REAGENT COMPOSITION

Creatinine R1 (SL) Acid Reagent

Picric acid 35 mmol/L
Creatinine R2 (SL) Alkaline Reagent
Sodium Hydroxide 320 mmol/L
Creatinine Standard

Creatinine standard concentration 2 mg/dL or 177 µmol/L

REAGENT STORAGE AND STABILITY

The reagents are stable, if protected from light, up to the stated expiry date when stored at 15 - 25° C.

PREPARATION OF WORKING REAGENT

Mix 1 volume of Reagent 1(R1) with 1 volume of Reagent 2 (R2) Ensure working reagent is at 25-30°C before use.

SPECIMEN

Serum is recommended, however heparinized plasma may also be used. Creatinine is stable for 24 hours at 2-8° C

PRECAUTION

To avoid contamination, use clean laboratory wares. Avoid direct exposure of reagent to light.

ASSAY

Wavelength : 490 nm
Cuvette : 1 cm light path
Temperature : 20-30°C

Measurement : Against air, increasing absorbance

PROCEDURE

| Pipette into cuvettes | Blank | Standard | Sample |
|-----------------------|---------|----------|---------|
| Working reagent | 1000 μL | 1000 μL | 1000 μL |
| Standard | | 100 μL | |
| Sample | | | 100 μL |

Mix well immediately in each case, simultaneously start the stopwatch. After 30 seconds measure absorbance A 1. Exactly 2 minutes after the measurement determine absorbance A2.

A2 - A1 =Δ A

CALCULATION

To convert mg/dL to μ mol/L multiply by 88.4

LINEARITY

This reagent is linear up 13 mg/dL

If the concentration is greater than linearity (13 mg/dL), dilute the sample 1+5 with physiological saline (NaCl; 9g/L) and repeat the assay. Multiply the result by 6.

NORMAL RANGE

Serum Creatinine

| Male | 0.7-1.4 mg/dL | 62-124 μmol/L |
|--------|---------------|---------------|
| Female | 0.7-1.2 mg/dL | 62-106 μmol/L |

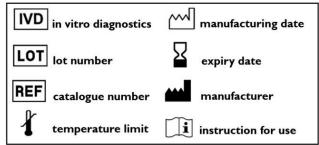
QUALITY CONTROL

All control sera with Creatinine value determined by this method may be used.

NOTES

- 1- The assay is not influenced by glucose 6g/l, bilirubin 20mg/l, ascorbic acid 10 mg/l, acetone 10mmol/L or acetoacetic acid 1 mmol/l.
- 2- Reagent is highly dependent upon temperature, so a constant reaction temperature is required for both standard and sample within one series.
- 3- Reagent 1 (picric acid) is a strong oxidizing agent avoid contact with skin. Wipe any spillages as picric acid is explosive.
- 4- Reagent 2 (NaOH) is caustic. Do not swallow avoid contact with skin and mucous membrane.

SYMBOL ON LABELS



BIBILOGRAPHY

- 1- Fabing D. L. and Erthingghausen. G.; Clin. Chem. 17.391, 1971.
- Young. D.S. et al.; Clin. Chem. 21,286D, 1975Trinder, P. Ann. Clin. Biochem, 6,24,1969.
- Tietz, N.W. (Ed,); Textbook of Clinical Chemistry, W.B. Saunders, 1271, 1986



CRESCENT DIAGNOSTICS FACTORY

CS604-CRE-K