

CREATININE

Colorimetric Kinetic Method 100 Tests

PRINCIPLE :

Creatinine in alkaline solution reacts with picric acid to form a colored complex. The amount of the complex formed is directly proportional to the creatinine concentration .

SAMPLES :

Serum or plasma
urine : diluted 1 + 49 with distilled water.

NORMAL VALUES :

Serum: *Men: 0.6 – 1.1 mg / dL
(53- 97 μ mol/L)
*Women: 0.5 – 0.9 mg / dL
(44 - 80 μ mol/L)
Urine: 1 – 1.5 g / 24 hrs
Creatinine clearance: *Men : 98 – 156 ml / min.
*Women : 95 – 160 ml / min.

REAGENTS :

1.	Standard	2 mg / dL (177 μ mol/L)
2.	Picric Acid	25 mmol / L
3.	Sodium hydroxide	0.4 mmol / L

STABILITY :

stable up to the expiration date specified when stored at +15 to +25 °C .

PROCEDURE:

Working reagent: mix equal volumes of reagents 2 and 3 before the assay.

	Standard (ml)	Sample (ml)
Working reagent	1.0	1.0
Standard	0.1	-
Sample	-	0.1

Mix and after 20 seconds at 20 – 25°C read the absorbance A_1 of the standard and sample at 495 (490 – 510 nm) against d. water, using cuvette 1 cm light path. Exactly 2 minutes later, read the absorbance A_2 of standard and sample. Linearity up to 10 mg / dl in serum or plasma and 500 mg / dl in diluted urine .

CALCULATION :

$$A_2 - A_1 = \Delta A_{\text{Sample}} \text{ or } \Delta A_{\text{Standard}}$$

$$\text{Creatinine in serum. (mg / dl)} = \frac{\Delta A_{\text{Sample}}}{\Delta A_{\text{Standard}}} \times 2$$

$$\text{Creatinine in urine (mg / dl)} = \frac{\Delta A_{\text{Sample}}}{\Delta A_{\text{Standard}}} \times 100$$

Creatinine Clearance (ml / min)

$$= \frac{\text{mg creatinine /dl urine x ml urine / 24 hrs}}{\text{mg creatinine / dl serum x 1440}}$$

QUALITY CONTROL :

For accuracy and reproducibility control:-
Assayed Multi – Sera, Normal and Elevated

NOTES :

Reaction rate and absorbance of the reaction product are very sensitive to temperature. Haemolysis interferes with the test. Do not use lipaemic sera. The method is subject to interferences from high levels of reducing substance. Boiling urine before testing may help reduce this interference.

REFERENCES :

Bartles H., Bohmer M., Heirli C., Clin, Chem, Acta 37, 193, (1972):
Larsen K., Clin. Chem. Acta 41, 209 (1972)

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Colorimetric Kinetic Method
+15 to +25°C 100 Tests
In vitro diagnostic use

CAT. No. CR 12 51

REAGENTS

R1 Standard 10 ml
R2 Picric Acid 50 ml
R3 Sodium hydroxide 50 ml

CONTACTS

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