

CREATININE SL



DIATEK

(Modified Jaffe's Two Point Kinetic Method)
Diagnostic reagent for quantitative in vitro determination of Creatinine in human serum/Urine.

CLINICAL SIGNIFICANCE

Creatinine is the catabolic product of creatinine phosphate, which is used by the skeletal muscle. The daily production depends on muscular mass and it is excreted out of the body entirely by the kidneys.

INCREASED LEVELS

Increased levels are found in renal dysfunction, reduced renal blood flow (shock, dehydration, congestive heart failure). Diabetes acromegaly.

DECREASED LEVELS

Decreased levels are found in muscular dystrophy.

PRINCIPLE



intensity of the colour formed is directly proportional to the amount of creatinine present in the sample.

REAGENT COMPOSITION

- Picric Acid > 8 mmol/L
- NaOH > 475 mmol/L
- EDTA > 2 mmol/L
- Surfactants

STORAGE/STABILITY

Contents are stable at **2-8°C** till the expiry mentioned on the labels.

REAGENT PREPARATION

Reagents are ready to use for the given procedure

SPECIMEN

Serum or urine Creatinine is reported to be stable in the sample 1 day when stored at 2-8°C Urine of 24 hours collection is preferred. Dilute the Specimen 1:50 with distilled or deionised water before the assay.

ASSAY PROCEDURE

- Wavelength/filter : 520 nm (505-570 nm) Green
- Temperature : 37°C
- Light path : 1 cm

Pipette into clean dry test tubes labeled as Standard (S), and Test (T):

	S	T
Creaiinine Reagent SL	1000 I	1000 I
Standard	100 I	-
Specimen	-	100 I

Mix well and read absorbance A_0 exactly after 30 seconds. Final absorbance A_i exactly after 90 seconds of Standard (S) & Test (T) against distilled at 520 nm or with green filter (505-540 nm).

Determine A for Standard (S) & Test (T);

$$S = AS_1 - AS_0$$
$$T = AT_1 - AT_0$$

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CALCULATIONS

$$\text{a) Serum Creatinine (mg/dl)} = \frac{(\text{AT})}{(\text{AS})} \times 2$$

$$\text{b) Urine Creatine (gm/L)} = \frac{(\text{AT})}{(\text{AS})} \times 2$$

$$\text{c) Urine Creatinine (gm/24 hrs)} = (\text{b}) \times 24 \text{ Hrs Urine vol. collected in Ltrs.}$$

LINEARITY

This procedure is linear upto 20 mg/dl of creatinine. If values exceed this limit, dilute the serum with distilled water and repeat the assay. Calculate the value using the proper dilution factor.

NOTES:

Maintain the reaction time of 20 min as closely as possible since as a longer incubation causes an increase in the values due to the reaction or pseudo chromogen and the determination is not specific and may be affected by the presence of large quantities of reducing substance in the sample. The reaction is temperature sensitive and all the tubes should be maintained at a uniform temperature.

QUALITY CONTROL

To ensure adequate quality control each run should include assayed normal & abnormal controls.

NORMAL VALUES

	Serum	Urine,24hrs collection
Males:	0.6-1.2 mg/dl	1.1-3.0gms
Females:	0.5-1.1 mg/dl	1.0-1.8gms

It is recommended that each laboratory establish its own normal range.

REFERENCES

1. Bones, R.W. etal .(1945) J.Bio. Chem 158,581.
2. Toro.G. etal. (1975) practical clinical chem.. P : 154



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