

**PRINCIPLE:**

Creatinine reacts with alkaline picrate producing an orange-red complex. The speed of absorbance is proportional to the creatinine concentration.

**REAGENT COMPOSITION:**

1. Reagent I (Picric acid)
2. Reagent II (Alkali)
3. Creatinine standard (5mg/dl)

**REAGENT PREPARATION:**

Reagent is ready to use.

**STORAGE & STABILITY:**

Store at 2-8° C, and keep away from light. Unopened reagent is stable until expiry date stated on the label.

**SAMPLE:**

Unhemolysed serum or EDTA or heparinised plasma can be used.

**AUTOMATED PARAMETERS**

Parameter	Kinetic test
Reaction type	Kinetic
Wavelength	505 nm (490-520 nm)
Reaction temperature	37° C
Blank	Against distilled water
Reaction	Increasing
Sample / Reagent ratio	1: 10
Delay time	20 sec
Measurement/ test time	60 sec
Sample volume	100 µl
R1 reagent volume	500 µl
R2 reagent volume	500 µl
Standard concentration	5mg/dl

**PROCEDURE:**

Let stand reagents and specimens at room temperature.

Tube	Standard	Test
Reagent I	500µl	500 µl
Reagent II	500µl	500 µl
Sample.	-	100 µl
Standard	100 µl	-
Mix and pour immediately into Cuvette. After 20sec. read A1 of sample/Std. Exactly 60 sec after the first reading , read A2 at 510 nm		

**CALCULATIONS:**

Calculate the result as follows:

$$\Delta A = A_2 - A_1$$

$$\text{Creatinine (mg/dl)} = \frac{\Delta A_{\text{sample}}}{\Delta A_{\text{standard}}} \times 5 \text{ mg/dl}$$

**Expected Value:**

	<i>Serum</i>	<i>Urine</i>
Men =	0.5- 1.5mg/dl	0.8-2.0 g/dl
Women =	0.5 -1.1 mg/dl	0.6-1.8g/dl

**Each lab should optimize its own normal range.**

**Reference:**

1. Jaffe M. Physio Chem 10, 391 (1886).
2. Young DS, et al., Clin.Chem,21: 10 (1975).