



CREATININE

Jaffé Endpoint Method with Deproteinization

Cat.No. 101-0034

Size 2x100 ml

PRINCIPLE:

Creatinine reacts with alkaline picrate producing an orange-red complex (the Jaffe reaction). The orange-red color formed is directly proportional to the creatinine concentration and is measured photometrically at 500 - 520 nm.

SAMPLE:

Serum, plasma or urine. Urine has to be diluted 1:20 with distilled water.

Stability: 48 hours at 20 °C to 25 °C and 7 days at 2 °C to 8 °C.

REAGENTS:

1. Picric acid (2 x 100 ml) 32 mmol/L
2. Sodium hydroxyde (1 x 40 ml) 2 mol/L
3. Standard

Standard concentration see on the vial label

Stable to expiry date when stored at +20 °C to +25 °C.

PROCEDURE:

Wavelength: 520 nm (490 - 530 nm or green filter)
Cuvette: 1 cm light path
Temperature: 20 °C, 25 °C
Stability color: 40 minutes
Zero: reagent blank

| Pipette into test tubes: | Blank | Standard | Sample |
|---|--------|----------|--------|
| Picric acid | 3.0 ml | 3.0 ml | 3.0 ml |
| Serum, urine | - | - | 0.4 ml |
| Standard | - | 0.4 ml | - |
| H ₂ O | 0.4 ml | - | - |
| Mix and centrifuge for 10 minutes at 3000 rpm. | | | |
| Supernatant | 2.0 ml | 2.0 ml | 2.0 ml |
| NaOH | 0.6 ml | 0.6 ml | 0.6 ml |
| Mix and after 25 minutes read absorbance of standard and samples against blank. | | | |

CALCULATIONS:

$$\frac{A_{\text{sample}}}{A_{\text{standard}}} \times \text{stand.conc.} = \mu\text{mol/L creatinine}$$

EXPECTED VALUES:

| | | | |
|-----------|-------|----------------------------|-----------------|
| Serum | Men | 53 - 106 $\mu\text{mol/L}$ | 0.6 - 1.2 mg/dl |
| | Women | 44 - 97 $\mu\text{mol/L}$ | 0.5 - 1.1 mg/dl |
| Urine | Men | 7.1 - 17.7 mmol/d | 0.8 - 2.0 g/d |
| | Women | 5.0 - 15.9 mmol/d | 0.6 - 1.8 g/d |
| Clearance | Men | 1.58 - 2.66 ml/s | 94 - 160 ml/min |
| | Women | 1.63 - 2.60 ml/s | 98 - 156 ml/min |

LINEARITY:

up to 1150 $\mu\text{mol/L}$ (13.0 mg/dl)

QUALITY CONTROL:

CONTRO-N 20 x 5 ml Cat. No. 101-0083
CONTRO-P 20 x 5 ml Cat. No. 101-0084

NOTE:

1. Use only non-hemolyzed sera for the determination. Avoid severely haemolysed samples as this increases noncreatinine chromogen.
2. The determination is not specific and may be affected by the presence of larger quantities of reducing substances. The interference can be partly eliminated in assays on urine by briefly boiling the urine sample.
3. Picric acid is poisonous.

REFERENCES:

1. Jaffe M.: Z.Physiol. Chem. 1986;10;391
 2. Bartles H. et al.: Clin. Chim. Acta 1972;37:93-197
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