CREATININE KINETIC
JAFFE METHOD

Principle:
Kinetic determination without deproteinization; the complex formed by creatine and picric acid in an alkaline medium is measured. The speed of absorbance change is proportional to the creatinine concentration.

Reagent Concentration:
Picric acid solution:
Picric Acid 35 mmol/l
NaOH solution:
Sodium hydroxide 0.32 mmol/l
Standard:
Creatinine 2mg/dl (176.8µmol/l)

Preparation and Stability
Dilute 1 volume of picric acid solution /R1 with 1 volume of NaOH solution /R2.
The solution mixture is stable for 15 days at +4 to +8 ºC or 3 days at +20 to +25 ºC.

Samples:
Serum, heperanised plasma.
Urine diluted 1:50 (0.1ml Urine+5ml water).
Take dilution into account for calculation.

Procedure:
Wavelength: 592nm (480-520nm)
Temperature: +25 / +30 / +37ºC
Cuvette: 1cm light path
Zero adjustment: air or distilled water.

Since the reaction is highly temperature sensitive, care must be taken to ensure that the solutions are pre-heated to an exact temperature and the reaction must proceed at a constant temperature.
The reaction temperature of the standard and of the sample must be identical! Provided these conditions are fulfilled, the determination can be carried out at any chosen temperature between +20 and +37ºC.

Mix, pour immediately into the cuvette. After exactly 20 seconds read A1 of sample and standard.
Exactly 80 seconds after the first reading, read A2 of sample and standard.

Calculation:
Creatinine in serum or plasma:
? A sample
------------ x 2.0 = creatinine conc.
? A standard
Creatinine in urine:
? A sample
------------ x 100 = creatinine conc.
? A standard
Creatinine in 24 hours urine:
Cone.
------------ x dl Urine/24hrs= creatinine in mg/24h dl urine

Linearity:
This method is linear up to 10mg/dl (= 884 µmol/l).
In case of higher results, dilute sample 1:5 with saline solution and repeat test. Multiply result by 5.

Normal Values:
Serum: Women: 40-140mg/dl (0.45-1.6mmol/l)
Men: 60-165 mg/dl (0.68-1.9mmol/l)
Urine: 1-1.5g/24h (8.84-13.3mmol/l)

Safety precautions:
For in vitro diagnostic use only. Do not pipette by mouth. Exercise the normal precautions required for handling laboratory reagents.

Health and Safety data sheets are available on request.

Literature:

CRE4482.V1
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