

LIQUIZYME

CREATININE SINGLE REAGENT

(Modified Jaffe's method)

**BEACON**

Code	Product Name	Pack Size
LS018A	Liquizyme Creatinine Single Reagent	2 X 50 ml
LS018C	Liquizyme Creatinine Single Reagent	1 X 50 ml
LS018D	Liquizyme Creatinine Single Reagent	5 LTR

INTENDED USE:

The reagent kit is intended for the "in vitro" quantitative determination of Creatinine in Serum and Urine.

SUMMARY:

Creatinine is excreted as a waste product by the kidneys. Increased serum creatinine levels usually indicate impairment of renal function. Creatinine appears in the glomerular filtrate and it is not reabsorbed by the tubule. Hence any condition that reduces the glomerular filtration rate will result in increase of creatinine concentration in plasma.

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. Elevated levels are found in renal dysfunction, reduced renal blood flow (shock, dehydration, congestive heart failure) diabetes acromegaly. Decreased levels are found in muscular Dystrophy.

PRINCIPLE:

Picric acid in an alkaline medium reacts with creatinine to form an orange colored complex with the alkaline picrate. Intensity of the colour formed is directly proportional to the amount of creatinine present in the sample.

CONTENTS:

Reagent 1 : Creatinine Reagent

Reagent 2 : Creatinine Standard 2 mg/dl

MATERIALS REQUIRED BUT NOT PROVIDED:-

- Clean & Dry Glassware.
- Laboratory Glass Pipettes or Micropipettes & Tips.
- Bio-Chemistry Analyzer.

STORAGE & STABILITY

All reagents are stable at 2 - 8°C. Till expiry mentioned on the label.

SAMPLES:

Serum or Heparinized plasma. Urine diluted (1:100) in saline.

PREPARATION OF REAGENT & STABILITY :

1. The reagent kit is stable at 2 - 8°C till the expiry date mentioned on the bottles.
2. Once used the standard reagent should be stored at 2° -8° C.

GENERAL SYSTEM PARAMETERS:

Reaction type	: Fixed time/Kinetic (Increasing)
Wave Length	: 510 nm
Temperature	: 37°C
Delay time	: 30 Sec
Interval	: 90 Sec.
Reagent volume	: 1.0 ml
Sample volume	: 100 µl
Standard concentration	: 2.0 mg/dl
Zero setting	: Deionised water
Light path	: 1 cm

PROCEDURE :

Pipette into a clean dry test tube labeled as Standard (S) and Test (T):

Addition Sequence	S	T
Reagent	1.0 ml	1.0 ml
Standard	100 µl	-
Sample	-	100 µl

Mix well and record the change in absorbance of test (Δ AT) and Standard (Δ AS) between 30 seconds and 120 seconds.

Determine For Standard $\Delta AS = A_2S - A_1S$

For Test $\Delta AT = A_2T - A_1T$

CALCULATION :

$$\text{Creatinine Conc. mg/dl} = \frac{\Delta AT}{\Delta AS} \times 2$$

$$\text{Urine Creatinine Conc. mg/dl} = \frac{\Delta AT}{\Delta AS} \times 2 \times 50^*$$

(* Dilution Factor)

Urine Creatinine gm/24hrs = Urine Creatinine in gm/L x Volume of urine in 24hrs.

NORMAL VALUE :

Serum : Male 0.4 - 1.5 mg /dl , Female - 0.4 - 1.5 mg/dl

Urine : Male 1.5 -2.0 gm/24h, Female - 0.8 -1.5 gm/24h

Each Laboratory should establish its own normal range representing its patient population.

LINEARITY :

This procedure is linear up to 25 mg/dl. If value exceeds this limit dilute the sample with normal saline (NaCl 0.9%) and repeat the assay Multiply result by dilution factor.

QUALITY CONTROL :

For accuracy, it is advised to run known serum controls with each assay.

LIMITATION & PRECAUTIONS :

1. Do not Freeze the Reagents.
2. During assay specified temperature has to be maintained.
3. The time interval should be adhered as the kit reagent are standardized accordingly
4. Do not pipette the reagent by mouth.
5. Use clean glassware free from dust or debris

BIBLIOGRAPHY :

Henry, R.J., Clinical chemistry, Principles and Techniques, 2nd Edition, Harper and Row, P. 525, 1974.

**SYMBOLS USED ON LABELS**

REF	Catalogue Number	Manufacturer	See Instruction for Use
LOT	Lot Number	CONT	Content
Expiry Date		IVD	In Vitro Diagnostics
		Storage Temperature	

BEA/24/CRM/LS/IFU-02

20/10/2022