

CHLORIDE

(MONOVALS)
(MERCURIC THIOCYANATE METHOD)

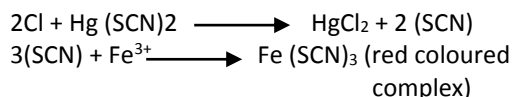
Diagnostic reagent for quantitative in vitro determination of Chloride in human serum

CLINICAL SIGNIFICANCE

Chloride, a major anion, is important in the maintenance of the cation/anion balance between intra and extra-cellular fluids. This electrolyte is therefore essential to the control proper hydration, osmotic pressure and acid/base equilibrium.

PRINCIPLE

The Chloride ions react with mercuric thiocyanate to release thiocyanate ions, which in turn react with ferric ions to form a red coloured complex of ferric thiocyanate. The intensity of the colour is proportional to the Chloride concentration.



KIT CONTENTS & STORAGE:

MTC Reagent – 1ml x 25Nos

Chloride Std (100 mmol/L) – 2ml

Store all the Reagents below 30°C.

REAGENTCOMPOSITION

Mercuric (II) thiocyanate : 5 mmol/L
Iron (III) Nitrate : 20 mmol/L
Nitric acid : 45 mmol/L
Mercuric stabilizer and surfactants

STABILITY AND STORAGE

It's stable at room temperature up to the date of expiration as specified, avoid direct sunlight

REAGENTPREPARATION

Reagents are ready to use.

SAMPLEMATERIAL

Serum, heparinised plasma, urine and CSF.

ASSAY PARAMETER

Parameter	Chloride
Mode	End Point
Wavelength	505 nm
Blanking	Reagent
Reagent Volume	1000 µl
Sample Volume	10 µl
Standard conc.	100mmol/L
Incub. Temp.	R.T.
Incub. Time	5 min.
Linearity	150mmol/L
Reaction Direction	Increasing
Units	mmol/L

ASSAY PROCEDURE

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

Addition Sequence	Blank	Std	Test
MTC Reagent (A ₁)	1000 µl	1000 µl	1000 µl
Standard (100mmol/L)	-	10 µl	-
Specimen	-	-	10 µl

Mix well read absorbance of standard (S) and Test (T) against Reagent blank (B) at 505 nm

CALCULATIONS

$$\text{Chloride (mmol/L)} = \frac{\text{Abs. of Test}}{\text{Abs. of Standard}} \times 100$$

$$\text{mEq/l.} = \text{mmol/L}$$

LINEARITY

This method is linear up to 150 mmol/L

QUALITY CONTROL

To ensure adequate quality control each run should include assayed Normal and Abnormal Controls.

NORMAL REFERENCE VALUES:

Serum : 98-107 mEq/l (98-107 mmol/L)
CSF : 123-128 mEq/l (123-128 mmol/L)
Urine : 170-250 mmol/24hrs.

REFERENCE

- Schoenfeld RG, Lerveller CV. Clin Chem 10,533 (1964)
- Levinson, S.S (1976) Clin Chem, 22,273

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