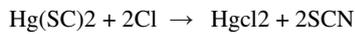


PRINCIPLE

The Chloride ions react with Mercuric Thiocyanate to release Thiocyanate ions which in turn react with Ferric ions to form Red colored complex of Ferric Thiocyanate. The absorbance of the Red colored complex at 505nm is proportional to the chloride concentration,



CLINICAL SIGNIFICANCE

Chloride ion represents that an ion of the salt and water household which is present in the highest concentrations in the body. It is primarily found as NaCl in the extra cellular compartment and as HCL in the gastrointestinal tract. Low chloride concentrations are associated with severe vomiting, diarrhea, colitis ulcerosa, diabetic acidosis, Addison's disease. Decreased chloride concentrations are found also in cases when drugs that need chloride ions for their absorption are taken for prolonged time. Increased levels are observed in cases of dehydration, congestive heart failure, Cushing's syndrome, hyperventilation, anaemia, nephritis and renal obstruction.

SAMPLE COLLECTION

- * Serum / Heparinized plasma/urine/CSF.
- * Urine specimen should be diluted 1+1 with distilled water (multiply result with 2)

PRECAUTIONS

- * Reagent is for in vitro diagnostic use only
- * Bring all reagents to room temperature before use.

KIT CONTENTS & STORAGE

- Color-Reagent - 50ml, 25x1ml, 50x1ml
- Chloride standard - 2ml(100 mmol/L)

All reagents are to be stored at RT and stable till expiry date mentioned.

REAGENT PREPARATION

All reagents are ready to use

SYSTEM PARAMETERS

Reaction Type	:	END POINT
Wave Length	:	505nm
Flow cell Temperature	:	37°C
Sample volume	:	10 µl
Reagent volume	:	10 µl
Standard Conc.	:	100 mmol/L
Incubation	:	3 minutes
Zero setting	:	Reagent Blank
Units	:	mg/dl

PROCEDURE

Pipette in a clean dry test tubes labeled as Blank (B), Standard(S) and Test(T)

	B	S	T
Color reagent	1.0ml	1.0ml	1.0ml
Standard		10 µl	
Sample			10 µl

Mix well and incubate at R.T. for 3 minutes. Measure the absorbance of Test (T) and Standard(S) against reagent blank on photometer using Green filter or on a Spectrophotometer at 505nm.

CALCULATIONS

$$\text{Chloride conc} = (\text{Abs of Test}/\text{Abs of Std}) \times \text{Conc of St}$$

LINEARITY

Chloride kit is linear up to 150 mmol/L. Samples exceeding 150 mmol/L should be diluted and re-assayed. The result has to be multiplied by the dilution factor.

NORMAL RANGES

Serum : 98 - 109 mmol/L

Urine : 170 - 250 mmol/L

Due to variation in inter-Laboratory assay conditions, instruments and demography it is recommended that each laboratory should establish its own normal range.

NOTES:

1. All glassware and cuvettes should be washed with Nitric Acid and rinsed with good quality distilled water before use.
2. This procedure measures total halides i.e. Bromide, iodide, Chloride and fluoride. Hence contamination with halides other than chloride should be avoided.
3. If a larger volume of reagent is required for the absorbance reading, requisite volumes can be taken in multiples keeping the same ratio of reagent to specimen/standard.

REFERENCE

1. Levison, S.S.(1976) Clin. Chem,22,1273
2. Schoenfeld, R.G.(1964) Clin. Chem.,10,553