

Chloride Estimation Kit

High-Q Chloride-ML

(MTC Method)

Intended Use:

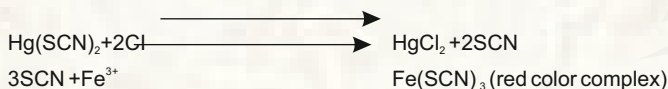
Quantitative Determination of Chloride Ions in Human Serum and Plasma.

Summary and Clinical Significance:

It is important clinically the determination of chloride due regulation of osmotic pressure of extra cellular fluid and to its significant role in acid-base balance. Increases in chloride ion concentration may be found in severe dehydration, excessive intake of chloride, severe renal tubular damage and in patients with cystic fibrosis. Decrease in chloride ion concentration may be found in metabolic acidosis, loss from prolonged vomiting and chronic pyelonephritis. Clinical diagnosis should not be made on a single test result; it should integrate clinical and other laboratory data.

Principle

The Chloride ions react with mercuric thiocyanate to release thiocyanate ions which in turn react with ferric thiocyanate. The absorbance of the red colored complex at 505 nm is proportional to the Chloride concentration.



Storage and Stability:

All reagents are stable at R.T. (25 °C) till the expiry date mentioned on the labels

Specimen:

Serum /Heparinised Plasma /urine /CSF.

Do not use EDTA Plasma

Urine specimen should be diluted 1+1 with distilled water (multiply result with 2)

Procedure

Pipette into test tubes labeled Blank (B), Standard (S) and Test (T) as follows:

Reagent	B	S	T
1. Chloride Reagent	1.0 ml	1.0 ml	1.0 ml
2. Chloride Standard (Conc. : 100 mMol/L)	-	10 µl	-
Specimen	-	-	10 µL

Mix well and incubate for 5 Minutes at Room Temperature . Read absorbance of Standard (S) and Test (T) against Reagent Blank (B) at 505 nm or with green filter (490-550 nm).

Calculations:

$$\text{Chloride in mMol/L} = \frac{\text{Abs. of T}}{\text{Abs. of S}} \times 100$$

System Parameters:

Reaction type	:	End Point
Wave length	:	505 nm
Flow cell Temperature	:	37°C
Sample volume	:	10 µl
Reagent volume	:	1000 µl
Standard concentration	:	100
Units	:	mMol/L
Blank	:	Reagent
Linearity	:	150
Low normal	:	90
High normal	:	112

Normal Range:

Serum Chloride	:	90-112 mMol/L
Urine Chloride	:	170-250 mMol / 24 hours (varies with uptake)
CSF Chloride	:	118-132 mMol / L

It is recommended that each laboratory should establish their own normal range.

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Quality Control:

To ensure adequate quality control, the use of commercial reference control serum is recommended with each assay batch. Use of Quality Control material checks both, the instrument and the reagent functions.

Notes:

- All glassware and cuvettes should be washed with Nitric acid and rinsed with good quality distilled water before use.
- This procedure measures total halides i.e. Bromide, Iodide, Chloride and Fluoride. Hence contamination with halides other than Chloride should be avoided.
- If a larger volume of reagent is required for absorbance reading, requisite volumes can be taken in multiples keeping the same ratio of reagent to specimen/standard.
- Programmes for specific autoanalyzers are available on request.

Interferences:

Hemolysis. Anticoagulants other than Heparin.

Performance Characteristics:

Measuring range:

From detection limit of 1.13 mmol/L to linearity limit of 150 mMol/L. If the results obtained were greater than linearity limit, dilute the sample 1:2 with distilled water and multiply the result by 2.

Precision:

	Intra-assay (n=20)		Inter-assay (n=20)	
Mean (mmol/L)	90.7	106	91.6	108
SD	0.64	0.73	0.69	0.81
CV (%)	0.70	0.69	0.76	0.74

Accuracy: Results obtained using High-Q Chloride-ML reagents did not show systematic differences when compared with other commercial reagents. The results obtained using 20 samples were the following: Correlation coefficient (r): 0.99 Regression equation: $y=0.9823x + 2.3006$ The results of the performance characteristics depend on the analyzer used.

Bibliography:

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














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- Liquid Stable, Ready to use Mono Reagent.
- One Step 5 Minutes End Point Assay.
- Results correlate with ISE, Direct and Indirect Potentiometry.
- Aqueous Chloride standard provided (Standard Conc: 100 mMol/L)
- Linearity: 150 mMol/L
- Measuring Wavelength 505 nm (490 – 550 nm)
- Serum / Heparinized Plasma/ Urine/ CSF as Specimens
- Available as multipurpose reagents and dedicated system packs

Symbols used with IVD devices

	Date of manufacture		Manufactured by
	In vitro diagnostic device		Keep away from sunlight
	Do not freeze		This way up
	Use by (yyyy-mm-dd or mm/yyyy)		Reagent
	Calibrator Material		Batch code
	Temperature limit		Control
	Consult instructions for use		Keep dry Keep away from rain
	Catalog Number		

eIFU Indicator



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