QUANTITATIVE DETERMINATION OF CHLORIDE

IVD

ORDER INFORMATION

REF: CHLO 100
CHLOM 50

CONT. 2X50 ml
50X1 ml

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

Chloride ions react with mercurous thiocyanate to form mercury perchlorate and thiocyanate. Thiocyanate forms a red complex with ferric ions in the presence of nitric acid.

REAGENT COMPOSITION

Reagent I : Chloride reagent
Chloride Standard : 100 mEq / l

SAFETY PRECAUTIONS AND WARNINGS

Corrosive (C):R35: Causes severe burns. Mercury (II) thiocyanate: Harmful (Xn): R20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R33: Danger of cumulative effects. S13: Keep away from food, drink and animal feeding stuffs. S28: After contact with skin, wash immediately with plenty of water. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S60: This material and its container must be disposed of as hazardous. S61: Avoid release to the environment. Refer to special

SAMPLE COLLECTION AND PRESERVATION

Serum or heparinised plasma.
Urine diluted 1:2 with distilled water.

REAGENT PREPARATION AND STORAGE

The reagents are ready to use.

REAGENT STABILITY

Upto expiry date when stored at R.T.

LINEARITY

The method is linear upto a concentration of 130 mEq/l.

AUTOMATED PARAMETERS

Wavelength 480 nm
Cuvette 1 cm
Reaction Temperature Room Temperature
Measurement Against reagent blank
Reaction Type End point
Sample/Reagent Ratio 1:100
Incubation 5 minutes
Blank Absorbance limit ≤ 0.3
Low Normal 98 mEq/l
High Normal 110 mEq/l
Linearity 130 mEq/l

ASSAY PROCEDURE

PIPETTE INTO TEST TUBES

<table>
<thead>
<tr>
<th></th>
<th>blank</th>
<th>std</th>
<th>sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>sample</td>
<td>-</td>
<td>10 µl</td>
<td>10 µl</td>
</tr>
<tr>
<td>standard</td>
<td>-</td>
<td>10 µl</td>
<td>-</td>
</tr>
<tr>
<td>reagent</td>
<td>1000 µl</td>
<td>1000 µl</td>
<td>1000 µl</td>
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</tbody>
</table>

Mix well. Incubate at Room Temperature for 5 min. Measure final absorbance of the sample (Ac) and standard (As) against the reagent blank.

CALCULATION

\[
\frac{Ac}{As} \times C = \text{mEq/l Chloride in Serum or Plasma}
\]

\[
\frac{Ac}{As} \times C \times 2 = \text{mEq/l Chloride in Urine}
\]

C= Concentration Standard.

QUALITY CONTROL

AcuteRST N - H

NOTE

For "ICTERIC SAMPLE" pre-incubate 0.1 ml serum in 0.5 ml buffer reagent for 5-10 mts. than add 0.5 ml Picrate reagent and follow the above programme.

REFERENCE INTERVAL

<table>
<thead>
<tr>
<th>category</th>
<th>interval</th>
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</thead>
<tbody>
<tr>
<td>Serum</td>
<td>98 - 110 mEq/l</td>
</tr>
<tr>
<td>24h Urine</td>
<td>170 - 250 mEq/24 h</td>
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BIBLIOGRAPHY