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## Medical Encyclopedia: Serum chloride

URL of this page: <http://www.nlm.nih.gov/medlineplus/ency/article/003485.htm>

### Definition

Serum chloride test measures the amount of chloride in serum, the fluid portion of the blood.

### How the test is performed

Blood is drawn from a vein or capillary. The laboratory centrifuges the blood to separate the cells from the serum. The chloride test is done on serum.

### How to prepare for the test

Your doctor may instruct you to withhold drugs that can affect the test, such as:

- Drugs that may increase serum chloride measurements include acetazolamide, ammonium chloride, androgens, cortisone, estrogen, guanethidine, methyl dopa, and NSAIDs.
- Drugs that may decrease serum chloride measurements include aldosterone, drugs containing bicarbonate, some diuretics, and triamterene.

Never stop taking medication unless instructed by your doctor.

### Why the test is performed

Chloride (Cl<sup>-</sup>) is the major negative ion in the fluid outside the body's cells. Its main function is to maintain electrical neutrality, mostly as a counter-ion to sodium. Changes in the chloride level often accompany sodium losses and excesses.

### Normal Values

Normal values may vary slightly from laboratory to laboratory. A typical normal range is 96 - 106 mEq/L.

Note: mEq/L = milliequivalents per liter

### What abnormal results mean

Greater-than-normal levels may indicate:

- Respiratory alkalosis
- Metabolic acidosis due to GI bicarbonate loss
- Bromism (excess intake of bromide, usually with sub-standard anticonvulsants)
- Excess infusion of normal saline
- Carbonic anhydrase inhibitors

- Renal tubular acidosis

Lower-than-normal levels may indicate:

- Addison's disease
- Burns
- Chronic compensated respiratory acidosis
- Congestive heart failure
- Gastric suction or vomiting
- Over hydration
- Excessive sweating
- Salt-losing nephritis
- Syndrome of inappropriate ADH secretion
- Metabolic alkalosis

Additional conditions under which the test may be performed:

- Multiple endocrine neoplasia (MEN) II
- Primary hyperparathyroidism

#### Update Date: 6/13/2005

Updated by: Debbie Cohen, M.D., Renal and Electrolyte Division, University of Pennsylvania Medical Center, Philadelphia, PA. Review provided by VeriMed Healthcare Network.



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