
Lab Dept: Chemistry

Test Name: IONIZED CALCIUM

General Information

Lab Order Codes: ICA

Synonyms: Calcium, Ionized, Blood, Ionized Calcium

CPT Codes: 82330 – Calcium, ionized

Test Includes: Ionized calcium concentrations reported in mEq/L.

Logistics

Test Indications: Calcium is the fifth most common element and the most prevalent cation found in the body. Calcium exists in three physiochemical states in plasma: free/ionized, bound and complexed with small anions. Ionized calcium is a more useful measure than total calcium and provides the best indication of calcium status because it is biologically active and is tightly regulated by hormones. Calcium is used for the assessment and treatment of parathyroid disease, a variety of bone diseases and chronic renal disease.

Lab Testing Sections: Chemistry

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 30 minutes

Special Instructions: See [Container](#) for special container recommendations. See [Collection](#) for special draw requirements.

Specimen

Specimen Type: Whole blood

Container: **Preferred:** Sims Portex® syringe (PB151) or Smooth-E syringe (956-463) **Accepted:** Radiometer Balanced Heparin Capillary gas tube (MIN: 70 uL cap tube, STP: 100 uL cap tube)

Draw Volume: 0.4 mL (Minimum: 0.2 mL syringe, MIN: 0.07 mL capillary, STP: 0.1 mL capillary) blood

Processed Volume: 0.2 mL syringe blood, MIN: 0.07 mL capillary blood, STP: 0.1 mL capillary blood

Collection: Routine venipuncture using one of the [collection containers](#) listed above. Immediately remove all air from syringe, remove needle, cap tightly, and mix. Send in original tube. Forward immediately at ambient temperature. **Do not expose specimen to air.**

Special Processing: Lab Staff: Deliver ICA syringe/cap gas tube immediately to the lab testing station. Specimen should be analyzed within 2 hours of collection, or placed in ice slurry.

Patient Preparation: None

Sample Rejection: Mislabeled or unlabelled specimens; samples containing air; samples collected in containers other than balanced heparin; specimens older than 2 hours; clotted samples

Interpretive

Reference Range:	Age:	Range:
	0 - 7 days:	2.10 - 2.96 mEq/L
	8 days - 17 years:	2.40 - 2.76 mEq/L
	>18 years:	2.32 - 2.64 mEq/L

Critical Values: <1.50 mEq/L

Limitations: N/A

Methodology: Ion-Selective Electrode (ISE)

References:
 ALB800 FLEX Operator's Manual from software version 6.4, Publication: 201410, Edition E, Code 994-909, www.radiometer.com
 ABK90 FLEX Operator's Manual from software version 3.1xx, Publication 201403, Edition H, Code 995656
 Jacobs & DeMott Laboratory Test Handbook (2001) Lexi-Comp, Inc, Hudson, OH, 5th Edition
 Tietz Textbook of Clinical Chemistry (1999) 3rd edition, WB Saunders Company

Updates:
 2/17/2005: Critical Value previously listed as <2.00 mEq/L.
 10/13/2014: Stability on ice changed from 30 minutes to 2 hours.

