
Lab Dept: Chemistry

Test Name: HCO₃

General Information

Lab Order Codes: HCO₃

Synonyms: Bicarbonate, blood; Bicarb

CPT Codes: 82374 – Carbon dioxide, bicarbonate

Test Includes: HCO₃ concentration as a calculated value reported in mEq/L.

Logistics

Test Indications: Useful for evaluation of acid-base balance and the body's ability to control pH. Bicarbonate ion is the principle transport form for CO₂.

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: Arterial punctures, arterial line and indwelling arterial catheter samples must be obtained by physicians or qualified staff from radial, brachial, femoral arteries or catheter sites.

Specimen

Specimen Type: Whole blood

Container: Preferred: Sims Portex® syringe (PB151) or Smooth-E syringe (956-463)

Draw Volume: 0.4 mL (Minimum: 0.2 mL) blood

Processed Volume: 0.2 mL blood

Collection: Arterial punctures must be performed by qualified personnel. Once the puncture has been performed or the arterial line specimen drawn, immediately remove all air from the syringe. Remove the needle, cap tightly and gently mix. Forward the specimen promptly at ambient temperature.

Note on arterial line draws: The IV solution must be removed from the system prior to collection to prevent contamination.

Special Processing: Lab Staff: Deliver the specimen to the blood gas testing station. Testing must be completed within one hour of collection or the sample should be immersed in an ice bath as soon as possible.

Patient Preparation: Based on collection type

Sample Rejection: Mislabeled or unlabeled specimens, samples containing air, non-heparinized samples, collection times exceeding one hour and clotted samples

Interpretive

Reference Range: 22 – 27 mEq/L

Critical Values: <10 and >40 mEq/L

Limitations: N/A

Methodology: HCO₃ by calculation

References: Tietz, Norbert (1995) Clinical Guide to Laboratory Tests, 3rd edition, WB Saunders Co, pp 1081-1084

NCCLS (1999) Procedures for the Collection of Arterial Blood Specimens, Third Edition, NCCLS document, H11-A3

ABL 800 Flex Operator's Manual, Publication 200802, Edition H, Code Number 990-315, 2008 Radiometer Medical ApS

Updates: 3/29/2016: Change TAT, previously listed as 1 hour