Anion Gap (Serum)

Description	The anion gap is a value calculated using the results of an electrolyte profile. It is used to help distinguish between anion-gap and non-anion-gap metabolic acidosis. Acidosis can disturb many cell functions and should be recognized as quickly as possible, when present. If anion-gap metabolic acidosis is identified, the anion gap may be used to help monitor the effectiveness of treatment and the underlying condition.
Indication	Diagnosis and monitoring of acutely ill patients.
Additional Info	The anion gap evaluates the difference between measured and unmeasured electrical particles (ions or electrolytes) in plasma. According to the principle of electrical neutrality, the number of cations and anions should be equal. However, not all ions are routinely measured. The calculated Anion Gap result represents the unmeasured ions and primarily consists of anions. The anion gap formula is: (Sodium + Potassium) - (Chloride + Carbon Dioxide)
Concurrent Tests	Sodium, Potassium, Chloride and Carbon Dioxide required for calculation of anion gap.
Dietary Requirements	N/A
Interpretation	The anion gap is non-specific. It is increased when the number of unmeasured anions increases, indicating a state of anion-gap metabolic acidosis, but it does not indicate the cause of the imbalance. The metabolic acidosis must be treated to restore the acid/base balance, but the underlying condition must also be identified and treated. Causes can include uncontrolled diabetes, starvation, kidney damage, and ingestion of potentially toxic substances such as antifreeze, excessive amounts of aspirin, or methanol. A low anion gap can also occur; this is most commonly seen when albumin (an anionic protein) is low, while immunoglobulins (cationic proteins) are increased.
Collection Conditions	No restrictions
Frequency of testing	As required