

CHROMOGRANIN A

INTRODUCTION

Chromogranin A (CGA) is a neuroendocrine secretory protein which is a precursor for several functional peptides like Vasostatin, Pancreastatin & Parastatin. It is cleaved by an endogenous prohormone convertase to several peptide fragments. CGA is found in adrenal medulla, pancreatic islet cells, endocrine cells of gastrointestinal tract and in sympathetic nervous system.

NORMAL RANGE

<100 ng/mL

CLINICAL USE

- As an aid in the diagnosis of functioning neuroendocrine tumors
- For prediction of response to therapy
- As an aid in the diagnosis of neuroendocrine tumors like thyroid carcinoma, small cell lung cancer, anterior pituitary adenoma
- As an indicator for pancreas and prostate cancer

INTERPRETATION

Increased Levels

Gastroenteropancreatic Neuroendocrine Tumors (GI-NET) <ul style="list-style-type: none">• Gastrinoma• Pheochromocytoma• Carcinoid tumor (56-100%)• Pancreatic islet cell tumor• Medullary thyroid carcinoma
Non-Neuroendocrine Neoplasms <ul style="list-style-type: none">• Hepatocellular carcinoma• Pancreatic adenocarcinoma• Colon cancer
Non neoplastic Gastroenteropancreatic disease <ul style="list-style-type: none">• Chronic atrophic gastritis• Pancreatitis• Inflammatory Bowel disease• Irritable Bowel Syndrome• Chronic hepatitis• Hepatic Cirrhosis
Gastric Acid suppression <ul style="list-style-type: none">• Proton pump inhibitors• H2 blockers
Non gastrointestinal disease

- Hypertension
- Heart failure
- Renal failure
- Hyperthyroidism
- Exercise induced stress
- Rheumatoid arthritis
- Systemic Lupus Erythematosus

Decreased Levels

Parkinson disease

LABORATORY DIAGNOSIS

- Serum Chromogranin A
- Plasma Neuron specific enolase
- Urinary 5-Hydroxyindole acetic acid (5-HIAA)
- Plasma Serotonin

LIMITATIONS

- Chromogranin A may not distinguish neuroendocrine hyperplasia from tumors
- Different assays do not produce equivalent values and should not be used interchangeably.