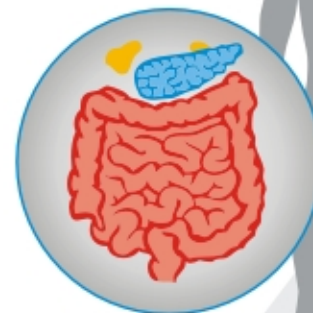


Neolisa™ Chromogranin A

An Excellent and Sensitive Marker for Detecting and Monitoring of Neuroendocrine Tumours

- » Reliable
- » Fast and easy
- » May be automated



Chromogranin A belongs to a family of secretory proteins stored in dense-core vesicles of neuroendocrine cells and have shown to be very sensitive and specific markers for various types of neuroendocrine tumours. The Euro-Diagnostica chromogranin A ELISA allows detection and quantitation of chromogranin A in plasma or serum.

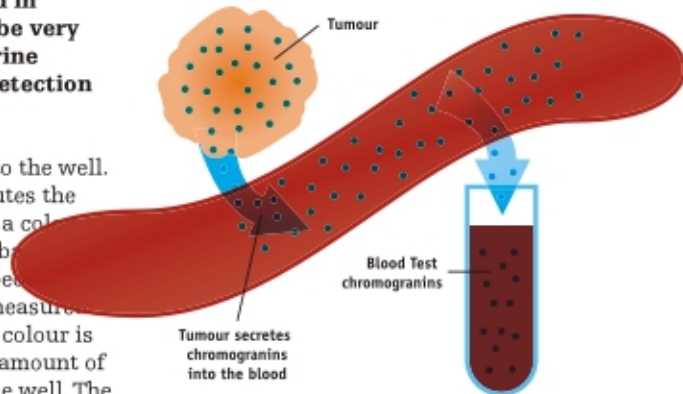
Chromogranins constitute a unique group of acidic, heat-stable, soluble proteins found in the secretory granules of neuroendocrine cells. The proteins are co-stored with hormones and neuropeptides and are co-released in response to a variety of stimuli. Chromogranins have been suggested to be involved in the packaging of hormones and the formation of secretory granules. Moreover, chromogranins are precursors of several bioactive peptides which can display different biological activities.

Neuroendocrine tumours are derived from neuroendocrine cells and usually present with increased serum/plasma levels of chromogranins. Typical neuroendocrine tumours are carcinoid tumours, neuroblastoma, pheochromocytoma, prostate cancer and pituitary tumours. This also includes the different neuroendocrine syndromes like the gastrinomas, glucagonomas, insulinomas and non-functioning tumours. Chromogranin A has been shown to be the best circulating marker for these tumours. For certain tumours chromogranin A is not only a marker for diagnosis but is also useful in monitoring progression of disease and response to treatment.

Principle of the assay

In a separate dilution plate patient samples, calibrators and controls are diluted 5x in diluent. The diluted material is transferred to the microtitre wells and incubated at room temperature for 60 minutes. During this first incubation a monoclonal antibody captures the chromogranin A to the surface of the well. After washing to remove unbound material a second, horseradish peroxidase labelled monoclonal antibody is added to detect

the chromogranin A bound to the well. After incubation for 30 minutes the wells are washed again and a colour substrate is added and incubated for 15 minutes and the colour measured in a spectrophotometer. The colour is directly proportional to the amount of chromogranin A bound to the well. The amount of chromogranin A is determined by comparison with the colour development of the calibrator samples.



Neuroendocrine tumours secrete chromogranins into the blood and the levels chromogranins in the bloodstream can be measured by ELISA.

Performance characteristics

Clinical:

Disease groups	Total number	Positive >3.0 nmol/L	Negative ≤3.0 nmol/L	Sensitivity %
Enterochromaffin-like tumours	4	3	1	75
Endocrine pancreatic tumours	30	19	11	63
Foregut carcinoid	10	7	3	70
Lung carcinoid	9	4	5	44
Midgut carcinoid	47	28	19	60
Neuroendocrine differentiation	6	2	4	33
Paragangliom	1	1	0	100

A total of 107 heparin-plasma samples with clinical characterisation were assayed.

Specificity

120 heparin-plasma samples from apparently healthy blood donors were assayed, 118 samples were negative: Blood donors: 118/120 = 98.3% 95% CI = 94.1-99.8%

Technical Features

- ELISA format
- HRP/TMB detection system
- Read at 450 nm
- 60 + 30 + 15 minutes incubation
- Ready-to-use except conjugate and wash solution

CGA • ELISA kit for detection and quantitation of chromogranin A



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