CHROMOGRANIN A ELISA

ADVANTAGES

LDN has developed a two-site sandwich ELISA for the quantitative determination of Chromogranin A (CgA) with the following features:

- → Speed and ease of use
- → Suitable for EDTA-plasma and serum samples
- → Standardization with human CgA (5 standards)
- → All reagents ready to use
- → Two controls included
- → Sandwich methodology leads to high specificity
- → Fast: results within 2.5 hours
- → Broad dynamic standard range minimizes the need for sample predilutions
- → No high-dose hook effect
- → Easy to automate on open platforms (e.g. Gemini)

Measuring range	Serum	12.5 – 700 µg/l
	EDTA-Plasma	8 – 700 µg/l

Expected reference value	Serum/EDTA-Plasma	< 100 µg/l

CHROMOGRANIN A *ELISA*

BACKGROUND INFORMATION

Chromogranin A (CgA) or parathyroid secretory protein 1 (gene name CHGA) is a member of the chromogranin/ secretogranin (granins) family of neuroendocrine secretory proteins, i.e. it is located in secretory vesicles of neurons and endocrine cells. Examples of cells producing chromogranin A are chromaffin cells of the adrenal medulla, enterochromaffin-like cells and beta cells of the pancreas. Chromogranin A is the precursor to several functional peptides including vasostatin, pancreastatin, catestatin and parastatin. These peptides negatively modulate the neuroendocrine function of the releasing cell (autocrine) or nearby cells (paracrine). Other peptides derived from chromogranin A with uncertain function include chromostatin, WE-14 and GE-25.

CgA has become the most important circulating tumour marker for different kinds of neuroendocrine tumours. CgA levels are increased in carcinoid tumours, neuroblastoma, pheochromocytoma, and gastro-entero-pancreatic tumours such as gastrinoma, glucagonoma, insulinoma. An increase of CgA levels in patients with prostate carcinoma is a hint for an unfavourable outcome of the disease. Chromogranin A-levels show an excellent correlation to the tumour mass and are therefore widely used to monitor the outcome of therapies.

The quantitative determination of Chromogranin A follows the basic principles of the enzyme immunoassay. First, the Chromogranin A in the samples, controls and standards binds to CgA-specific antibodies which had been fixed to a 96 wells microtiter plate. A washing step limits the possibility of measuring a high-dose hook effect. A sandwich is formed by adding CgA antibodies conjugated to horseradish peroxidase. After incubation the wells are washed thoroughly and the complex bound to the solid phase is detected by using TMB as a substrate. The reaction is monitored at 450 nm. By means of a calibration curve the CgA concentrations in the samples are determined.

ASSAY CHARACTERISTICS

Expected Reference Values Serum and Plasma:		< 100 µg/l
Analytical Sensitivity (Limit of Detection):		5 µg/l
Linearity:	Serum	113 %
	Plasma	106 %
Recovery:	Serum	106 %
	Plasma	94 %
Precision Intra-Assay:	Serum	3 % (at 66 µg/l) and 4 % (at 151 µg/l)
	Plasma	9 % (at 58 µg/l) and 4 % (at 124 µg/l)
Precision Inter-Assay:	Serum	6 % (at 64 µg/l) and 7 % (at 144 µg/l)
	Plasma	4 % (at 58 µg/l) and 3 % (at 125 µg/l)
High-dose hook effect		No high-dose hook effect up to 200 000 µg/l
Method comparison versus automate*		Kryptor CgA II = 1.14x(ELISA) + 3.13; r^2 = 0.94; n = 82

* Kryptor CgA II

KIT DETAILS

CAT NO.	SAMPLE SIZE	STANDARDS	SENSITIVITY	FORMAT
TM E-9000	serum/plasma 25 µl	0/30 - 700 µg/l	5 µg/l	96 wells

WORLD-WIDE LDN Labor Diagnostika Nord GmbH & Co. KG / Am Eichenhain 1 / 48531 Nordhorn, Germany
Tel: +49 5921 8197-101 / Fax: +49 5921 8197-222 / Web: www.ldn.de / E-mail: info@ldn.de
NORTH AMERICA Rocky Mountain Diagnostics / Inc. 703 N Tejon Suite C - Colorado Springs / CO 80903
Tel: 1-877-477-0039 / Fax: 1-719-477-0307 / Web: www.rmdiag.com / E-mail: info@rmdiag.com