Alzheimer's Research

DRG

DRG ELISA Alzheimer's Research

DRG Amyloid beta ELISAS

The first test worldwide for the determination of serum auto-antibodies against Amyloid peptides!

Benefit

- Amyloid auto-antibodies are supposed to regulate the concentration of Amyloid beta (Aβ) peptides in the body, which might be helpful to protect against Alzheimer's disease. The DRG ELISA is the first test worldwide for the determination of serum auto-antibodies against Amyloid peptides. Already today IVIG (Intravenous Immunoglobulin) - the purified IgG fraction of human plasma - is used as therapeutics in the field of several neurological disorders.
- Serum, plasma or CSF contain Amyloid beta peptides of different sizes. Amyloid beta (1-40) containing 40 amino acids are the most abundand Aβ peptides, while the concentration of Aβ 1-42 is approximately 10 times lower.
  Due to its outstanding sensitivity, the DRG Elisa Aβ (1-40) specifically detects the 1-40 peptid not only in CFS, but olso in serum and plasma samples.
- The lyophilized standards just have to be resolved in distilled water. All other reagents are ready-to-use.
- The combination of both Elisas can offer insight into the correlation and mutual influence of Aβ (1-40) peptides and their corresponding auto-antibodies.

Background information Alzheimer's disease:

Alzheimer's disease (AD) is characterized by the deposition of amyloid plaques, degeneration and loss of neurons, accumulation of fibrillary tangles in neurons, and a progressive loss of cognitive function.

Amyloid plaques are mainly composed of amyloid-beta (Aβ) 40 and 42 peptides derived from the proteolytic cleavage of amyloid precursor protein (APP).
The concentration of Aβ peptides in serum and liquor depends on age and disease severity, and is further modulated by production of Aβ peptides in large peripheral organs, movement from brain interstitial fluid into blood stream, peripheral uptake and clearance of Aβ peptides in the liver and by naturally occurring auto-antibodies against Aβ peptides. This may explain why much of the plasma Aβ peptide data in cross-sectional studies does not show significant differences between sporadic AD and controls. In this respect, longitudinal studies seem more promising, showing initially elevated Aβ 42 levels in those that eventually develop AD in the future.

Recent studies further indicate that the tendency of Aβ peptides to aggregate is greatly enhanced by the formation of reactive oxygen species by monoamine oxidase and the direct influence of nitric oxide synthase (NOS2).

As Aβ peptides are considered to play an early and pivotal role in AD pathogensesis, they may be a useful tool in diagnosing AD in the preclinical/early stages, as well as for monitoring potential Aβ peptide modifying therapies, since clearance of Aβ from the brain represents an important therapeutic strategy for prevention and treatment of AD.

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Amyloid beta Auto-Ab (Human) Serum

Cat. No.:	EIA-5099
Assay principle:	Sandwich ELISA
Sample volume:	10 µL (serum)
Incubation time:	30/30/10 min.
Assay dynamic range:	1.7-120 RTU
Specificity of antibodies:	Synthetic 1-42 amyloid beta peptide is detected
Controls:	Two controls included

Assay characteristics

CV Intra Assay:	4.7-6.2 %
CV Inter Assay:	5.9-13.4 %
Recovery:	87.0-95.7 %
Linearity:	94.3-110.0 %
Analytical sensitivity:	1.7 RTU

Principle of the test

The DRG Amyloid β Auto-Ab ELISA Kit is a solid phase enzyme-linked immunosorbent assay (ELISA) based on the sandwich principle.
The microtiter wells are coated with Amyloid (1-42) peptides. An aliquot of patient sample containing Aβ-autoantibodies is incubated in the coated well with assay buffer. After washing, goat anti-human IgG conjugated to horseradish peroxidase is incubated in the coated well. After washing, substrate solution is added. The amount of bound peroxidase is proportional to the concentration of autoantibodies against Aβ in the sample. Hence, the intensity of colour developed is proportional to the concentration of autoantibodies against Aβ in the patient sample.

Amyloid beta (1-40) Human

Cat. No.	EIA-5231
Assay principle:	Sandwich ELISA
Sample volume:	100 µL (serum, plasma or CSF)
Incubation time:	180/30/20 min.
Assay dynamic range:	1.66-750 pg/mL
Specificity of antibodies:	No cross reactivity with Aβ 1-42 and Aβ 12-28
Controls:	Two controls included

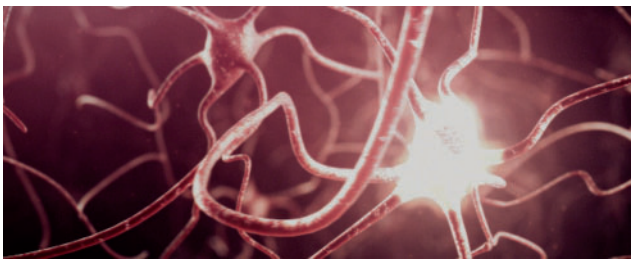
CE marked

Assay characteristics

CV Intra Assay:	7.5-9.3 %
CV Inter Assay:	9.5-11.8 %
Recovery:	89.8-97.4 % (EDTA plasma)
Linearity:	97.7-112.4 % (EDTA plasma)
Analytical sensitivity:	1.66 pg/mL
Controls:	Two controls included

Principle of the test

The DRG Aβ-40 ELISA Kit is a solid phase enzyme-linked immunosorbent assay (ELISA) based on the sandwich principle.
The microtiter wells are coated with a monoclonal antibody directed towards a unique antigenic site on the Aβ-40 peptide. An aliquot of patient samle containing endogenous Aβ-40 peptide is incubated in the coated well with enzyme conjugate, which is a biontinylated anti-Aβ-40 antibody. After incubation, the unbound conjugate is washed off. Finally, Enzyme Complex, which is streptavidin conjugated with horseradish peroxidase is added, and after incubation, unbound enzyme complex is washed off.
The amount of bound peroxidase is proportional to the concentration of Aβ-40 peptide in the sample.
Having added the substrate solution, the intensity of colour developed is proportional to the concentration of Aβ-40 in the patient sample.



Amyloid beta (x-42) (Human/Rodent)

Cat. No.:	EIA-5489
Assay principle:	Sandwich ELISA
Sample volume:	100 µL (plasma, TCS, CSF or tissue homogatenates)
Incubation time:	overnight/ 45 min.
Assay dynamic range:	7.5-250 pg/mL
Specificity of antibodies:	The kit is specific for the x-42 isoform of beta amyloid. It has negligible cross reactivity with the x-40 isoforms.

Principle of the test

The DRG Aβ-42 ELISA Kit is a solid phase enzyme-linked immunosorbent assay (ELISA) based on the sandwich principle.
The microtiter wells are coated with an antibody directed towards a unique antigenic site on the Aβ-42 peptide. An aliquot of patient sample containing endogenous Aβ-42 peptide is incubated in the coated well with an antibody directed towards another unique antigenic site on the Aβ-42 peptide. After incubation, the unbound peptide is washed off. Finally, Enzyme Complex, which is an antibody conjugated with horseradish peroxidase is added, and after incubation, unbound enzyme complex is washed off. The amount of bound peroxidase is proportional to the concentration of Aβ-42 peptide in the sample. Having added the substrate solution, the intensity of colour developed is proportional to the concentration of Aβ-42 in the patient sample.

DRG ELISAS

Oncology

CYFRA 21-1
CA 72-4
CA 15-3
CA 125
CA 19-9
CEA
TPS
TPA
PSA
free PSA
NSE
Chromogranin

Gyn. Endocrinology

Estradiol
Progesterone
17a-OH Progesterone
DHEA-S
Testosterone
DHEA
Estrone
Androstendione
DHT
SHBG
DHEA
LH, FSH, PRL

Diabetes/Obesity

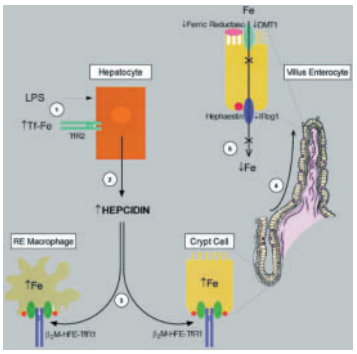
Insulin
C-Peptid
Proinsulin
Leptin

Iron Metabolism

Hepcidin
Pro-Hepcidin

Prenatal Supervision

PAPP-A
Free ß HCG
AFP
Free Estriol
HCG
HPL
PLGF



Saliva Diagnostics

Cortisol
Estradiol
Testosterone
DHEA
Progesterone
17a-OH Progesterone

New

Bone Metabolism

25-OH Vitamin D Total

New

Hypertension

Renin
Aldosterone

ELISAS that perform

DRG develops and manufactures ELISAS for use in clinical and research laboratories.
The experience of our production and management team guarantees to provide high quality products, competitive prices and excellent customer service.

DRG works to DIN EN ISO 9001:2000, ISO 13485:2003 and ISO 13485:2003 under CMDCAS standard, certified by TÜV Rheinland Product Safety GmbH, an indication of our commitment to customer service, quality control and improved health care.

DRG Diagnostics

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