abcam

Product datasheet

Human GFAP ELISA Kit ab223867

SimpleStep ELISA®

3 Images

Overview

Product name Human GFAP ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Brain	8			5.3%

Inter-assay

Sample	n	Mean	SD	CV%
Brain	3			11.8%

Sample type Tissue Extracts

Assay type Sandwich (quantitative)

Sensitivity 47 pg/ml

Range 0.781 ng/ml - 50 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Tissue Extracts	117	116% - 119%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview GFAP *in vitro* SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of GFAP in tissue extracts and cell extracts

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire

complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

Glial fibrillary acidic protein (GFAP) is a class-III intermediate filament, cell-specific marker that during development of the central nervous system, distinguishes astrocytes from other glial cells. Protein expression is also found in numerous cell types including astrocytes, ependymal cells, osteocytes, keratinocytes and chondrocytes. GFAP has also been found to be expressed in rat glomeruli, peritubular fibroblasts, stellate cells of the pancreas and liver tissue as well as Leydig cells of the testis in both hamsters and humans.

Tested applications **Suitable for:** Sandwich ELISA

Platform Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CP	1 x 6ml
10X Human GFAP Capture Antibody	1 x 600µl
10X Human GFAP Detector Antibody	1 x 600µl
Human GFAP Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 12ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function GFAP, a class-III intermediate filament, is a cell-specific marker that, during the development of the central nervous system, distinguishes astrocytes from other glial cells.

Tissue specificity Expressed in cells lacking fibronectin.

Involvement in disease	Defects in GFAP are a cause of Alexander disease (ALEXD) [MIM:203450]. Alexander disease is a rare disorder of the central nervous system. It is a progressive leukoencephalopathy whose hallmark is the widespread accumulation of Rosenthal fibers which are cytoplasmic inclusions in astrocytes. The most common form affects infants and young children, and is characterized by progressive failure of central myelination, usually leading to death usually within the first decade. Infants with Alexander disease develop a leukoencephalopathy with macrocephaly, seizures, and psychomotor retardation. Patients with juvenile or adult forms typically experience ataxia, bulbar signs and spasticity, and a more slowly progressive course.
Sequence similarities	Belongs to the intermediate filament family.
Post-translational modifications	Phosphorylated by PKN1.
Cellular localization	Cytoplasm. Associated with intermediate filaments.

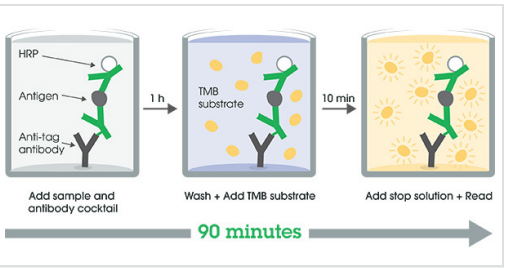
Applications

Our Abpromise guarantee covers the use of **ab223867** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

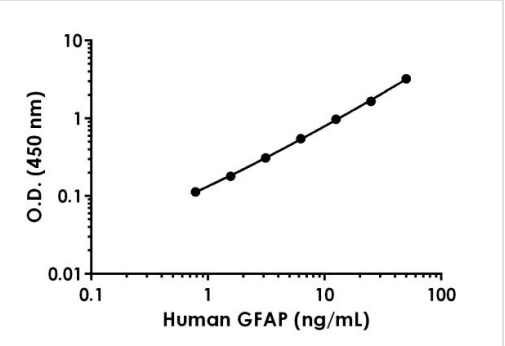
Application	Abreviews	Notes
Sandwich ELISA		Use at an assay dependent concentration.

Images



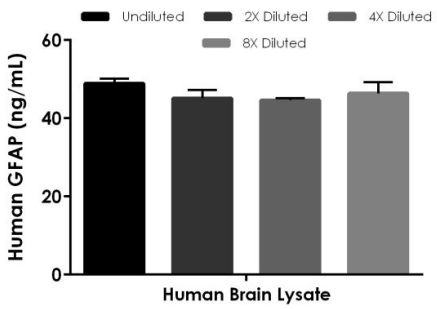
Other - Human GFAP ELISA Kit (ab223867)

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Example of human GFAP standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.



Interpolated concentrations of native GFAP in Human brain extract based on a 100 ng/mL extract load.

The concentrations of GFAP were measured in duplicate and interpolated from the GFAP standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean GFAP concentration was determined to be 46.27 pg/mL per 100 ng/ml extract load.

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