

# GFAP ELISA kit

## GFAP (human) ELISA kit A05188

- Validated for serum, CSF and plasma
- QC high and QC low provided
- All inclusive kit: precoated plate and reagents



Glial Fibrillary Acidic Protein (GFAP), is the principal 8-9 nm intermediate filament in mature astrocytes of the Central Nervous System (CNS). GFAP is mainly located in the brain and is not found outside the CNS. The findings showed that GFAP is quickly released after traumatic brain injury and is in relationship with brain injury severity and outcome.

In the CNS following injury, either as a result of trauma, disease, genetic disorders, or chemical damage, astrocytes become reactive, and their response is called astrogliosis which is characterized by rapid synthesis of GFAP.

GFAP is reported to increase with age and there is a wide variation in the collection and processing of human brain tissue. GFAP is also an established biomarker of retinal stress.

### FOCUS ON THE ASSAY

This enzyme immunoassay (ELISA) is based on a double-antibody sandwich technique. The wells of the plate supplied with the kit are coated with a polyclonal antibody specific of human GFAP. This antibody will bind any GFAP introduced in the wells (sample or standard).

After one-hour incubation and a washing, biotin-labelled monoclonal anti-human GFAP antibody is added and incubated with captured GFAP. This allows the two antibodies to form a sandwich by binding on different parts of the human GFAP molecule.

After a thorough wash, streptavidin-horseradish peroxidase tracer is added. The plate is washed to remove any unbounded reagent, and hydrogen peroxide/TMB substrate is added to the wells. The HRP tracer acts on the hydrogen peroxide/TMB substrate to form a yellow compound that absorbs at 450 nm. The reaction is stopped by addition of sulphuric acid solution.

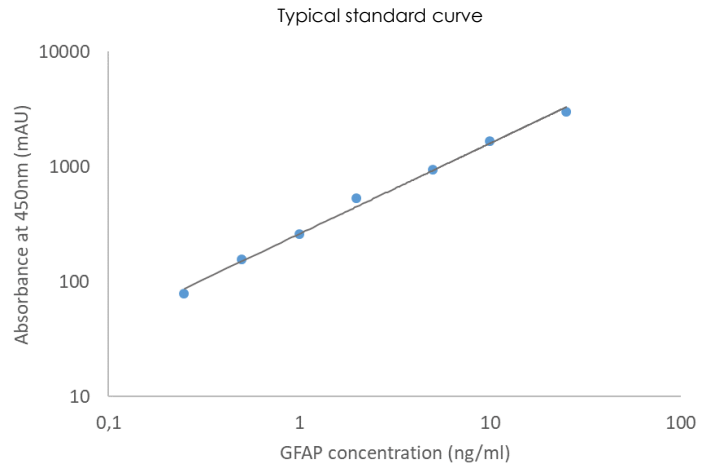
The intensity of the color, which is determined by spectrophotometry, is proportional to the amount of tracer bound to the well.

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## TECHNICAL DATA

- **Size:** 96 wells
- **Shipping:** Wet ice
- **Stability:** Store at +4°C
- **Limit of detection:** 0.045 ng/mL
- **Sample volume:** 35µL
- **Standard Curve Range:** 0.25-25 ng/mL
- **Specificity:**
  - Mouse GFAP: <0.1%
  - Rabbit GFAP: <0.1%
  - Horse GFAP: <0.1%
  - Goat GFAP: <0.1%
  - Hamster GFAP: <0.1%
  - Sheep and bovine ASP: <0.1%

- **Media application:** Human serum, plasma, cerebrospinal fluid and culture supernatant



## REFERENCES

- DK Sato et al.: **Cerebrospinal Fluid aquaporin-4 Antibody Levels in Neuromyelitis Optica Attacks.** Ann Neurol (2014).
- Eng L.F., Ghirnikar R.S., Lee Y.L.: **Glial fibrillary acidic protein: GFAP – Thirty – One Year (1969-2000).** Neurochemical Research. 25, 1439-1451, (2000) Finch C.E.: Neurons, Glia, and Plasticity in normal Brain Aging. Adv Gerontol 10, 35-39, (2002).
- Felix Benninger, Mica Glat, Daniel Offen, Israel Steiner: **Spinal fluid GFAP as a marker of astrocyte activation in patients with MND (P2.068).** Neurology Apr 2015, 84 (14 Supplement) P2.068.
- Missler U., Wiesmann M., Wittmann G., Magerkurth O., Hegenstrom H.: **Measurement of glial fibrillary acidic protein in human blood: analytical method and preliminary clinical results.** Clinical Chemistry. 45(1), 138-41, (1999).

## RELATED PRODUCTS

- **Prolactin (mouse) ELISA kit** cat #A05136
- **CGRP (human) ELISA kit** cat #A05481
- **Prolactin (rat) ELISA kit** cat #A05101
- **Histamine ELISA kit** cat #A05890