

GFAP (1.BB.807): sc-71143

BACKGROUND

Glial fibrillary acidic protein, or GFAP, is an intermediate filament (IF) protein belonging to the type III subclass of IF proteins. Like other IF proteins, GFAP is composed of an amino-terminal head domain, a central rod domain and a carboxy-terminal tail domain. GFAP is specifically found in astroglia, a cell type which is highly responsive to neurologic insults. Astrogliosis is found to be a result of mechanical trauma, AIDS dementia, prion infection and inflammatory demyelination diseases, and is accompanied by an increase in GFAP expression. GFAP is an immunohistochemical marker for localizing benign astrocyte and neoplastic cells of glial origin in the central nervous system.

REFERENCES

1. Herpers, M.J., et al. 1986. Co-expression of glial fibrillary acidic protein- and vimentin-type intermediate filaments in human astrocytomas. *Acta Neuropathol.* 70: 333-339.
2. Van Muijen, G.N., et al. 1987. Coexpression of intermediate filament polypeptides in human fetal and adult tissues. *Lab. Invest.* 57: 359-369.
3. McLendon, R.E., et al. 1994. Immunohistochemistry of the glial fibrillary acidic protein: basic and applied considerations. *Brain Pathol.* 4: 221-228.
4. Eng, L.F., et al. 1994. GFAP and astrogliosis. *Brain Pathol.* 4: 229-237.

CHROMOSOMAL LOCATION

Genetic locus: GFAP (human) mapping to 17q21.31; Gfap (mouse) mapping to 11 E1.

SOURCE

GFAP (1.BB.807) is a mouse monoclonal antibody raised against purified brain GFAP of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GFAP (1.BB.807) is recommended for detection of 43-45 kDa fragment of GFAP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for GFAP siRNA (h): sc-29332, GFAP siRNA (m): sc-35466, GFAP siRNA (r): sc-155993, GFAP shRNA Plasmid (h): sc-29332-SH, GFAP shRNA Plasmid (m): sc-35466-SH, GFAP shRNA Plasmid (r): sc-155993-SH, GFAP shRNA (h) Lentiviral Particles: sc-29332-V, GFAP shRNA (m) Lentiviral Particles: sc-35466-V and GFAP shRNA (r) Lentiviral Particles: sc-155993-V.

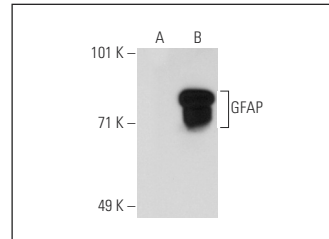
Molecular Weight of GFAP: 50 kDa.

Positive Controls: rat brain extract: sc-2392, GFAP (h2): 293T Lysate: sc-115582 or C6 whole cell lysate: sc-364373.

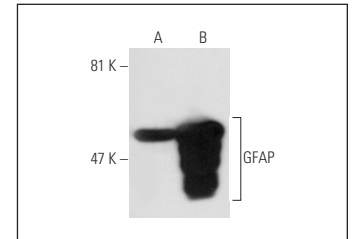
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



GFAP (1.BB.807): sc-71143. Western blot analysis of GFAP expression in non-transfected: sc-110760 (A) and human GFAP transfected: sc-111038 (B) 293 whole cell lysates.




GFAP (1.BB.807): sc-71143. Western blot analysis of GFAP expression in non-transfected: sc-117752 (A) and human GFAP transfected: sc-115582 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Liu, A., et al. 2017. MiR-200b inhibits CD133+ glioma cells by targeting the Akt pathway. *Oncol. Lett.* 13: 4701-4707.
2. Qi, Q., et al. 2017. Co-amplification of phosphoinositide 3-kinase enhancer A and cyclin-dependent kinase 4 triggers glioblastoma progression. *Oncogene* 36: 4562-4572.
3. Zhang, S., et al. 2017. GFAP expression in injured astrocytes in rats. *Exp. Ther. Med.* 14: 1905-1908.
4. Yang, Z., et al. 2018. Inhibition of p38 MAPK signaling regulates the expression of EAAT2 in the brains of epileptic rats. *Front. Neurol.* 9: 925.
5. Liu, Y., et al. 2019. Astrocytic cytochrome P450 4A/20-hydroxyeicosate-traenoic acid contributes to angiogenesis in the experimental ischemic stroke. *Brain Res.* 1708: 160-170.
6. Song, C., et al. 2019. Cardiolipin remodeling by ALCAT1 links mitochondrial dysfunction to Parkinson's diseases. *Aging Cell* 18: e12941.
7. Silva, D.F., et al. 2020. Microbial BMAA elicits mitochondrial dysfunction, innate immunity activation, and Alzheimer's disease features in cortical neurons. *J. Neuroinflammation* 17: 332.
8. Li, D., et al. 2022. PGC-1α affects epileptic seizures by regulating mitochondrial fusion in epileptic rats. *Neurochem. Res.* E-published.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **GFAP (2E1): sc-33673** for GFAP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.