SANTA CRUZ BIOTECHNOLOGY, INC.

GFAP (GF5): sc-51908

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 demylination 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.

CHROMOSOMAL LOCATION

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

SOURCE

GFAP (GF5) 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 (GF5) 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: mouse brain extract: sc-2253, GFAP (h2): 293T Lysate: sc-115582 or rat brain extract: sc-2392.

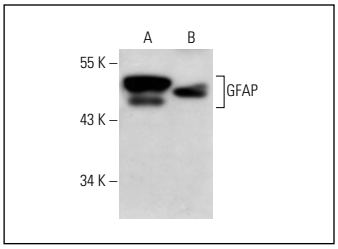
STORAGE

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

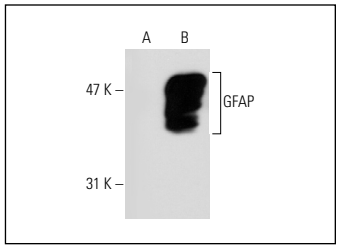
RESEARCH USE

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

DATA



GFAP (GF5): sc-51908. Western blot analysis of GFAP expression in rat brain (**A**) and mouse brain (**B**) tissue extracts.



GFAP (GF5): sc-51908. 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. Razafimanjato, H., et al. 2010. The food-associated fungal neurotoxin ochratoxin A inhibits the absorption of glutamate by astrocytes through a decrease in cell surface expression of the excitatory amino-acid transporters GLAST and GLT-1. Neurotoxicology 31: 475-484.
2. Hwang, P.Y., et al. 2012. Changes in midbrain pain receptor expression, gait and behavioral sensitivity in a rat model of radiculopathy. Open Orthop. J. 6: 383-391.
3. Zhang, P., et al. 2015. Krüppel-like factor 4 regulates granule cell Pax6 expression and cell proliferation in early cerebellar development. PLoS ONE 10: e0134390.
4. Yon, J.M., et al. 2018. The ethanol fraction of white rose petal extract abrogates excitotoxicity-induced neuronal damage *in vivo* and *in vitro* through inhibition of oxidative stress and proinflammation. Nutrients 10: 1375.
5. Kim, E., et al. 2019. Losartan, an Angiotensin II type 1 receptor antagonist, alleviates mechanical hyperalgesia in a rat model of chemotherapy-induced neuropathic pain by inhibiting inflammatory cytokines in the dorsal root ganglia. Mol. Neurobiol. 56: 7408-7419.
6. Brito, H.O., et al. 2020. Immune-mediated febrile response in female rats: role of central hypothalamic mediators. Sci. Rep. 10: 4073.
7. Zilundu, P.L.M., et al. 2021. Long-term suppression of c-Jun and nNOS preserves ultrastructural features of lower motor neurons and forelimb function after brachial plexus roots avulsion. Cells 10: 1614.
8. Kim, T.Y., et al. 2022. Wireless theranostic smart contact lens for monitoring and control of intraocular pressure in glaucoma. Nat. Commun. 13: 6801.