SANTA CRUZ BIOTECHNOLOGY, INC.

GFAP (F-7): sc-166458

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 inflam-matory 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.

CHROMOSOMAL LOCATION

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

SOURCE

GFAP (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-30 at the N-terminus of GFAP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GFAP (F-7) is available conjugated to agarose (sc-166458 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166458 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166458 PE), fluorescein (sc-166458 FITC), Alexa Fluor® 488 (sc-166458 AF488), Alexa Fluor® 546 (sc-166458 AF546), Alexa Fluor® 594 (sc-166458 AF594) or Alexa Fluor® 647 (sc-166458 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166458 AF680) or Alexa Fluor® 790 (sc-166458 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166458 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GFAP (F-7) is recommended for detection of GFAP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

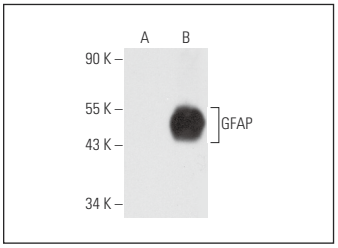
Suitable for use as control antibody for GFAP siRNA (h): sc-29332, GFAP siRNA (m): sc-35466, GFAP siRNA (r): sc-155993, GFAP shRNA Plasmid (h): sc-29332-SH, GFAP shRNA Plasmid (m): sc-35466-SH, GFAP shRNA Plasmid (r): sc-155993-SH, GFAP shRNA (h) Lentiviral Particles: sc-29332-V, GFAP shRNA (m) Lentiviral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

Molecular Weight of GFAP: 50 kDa.

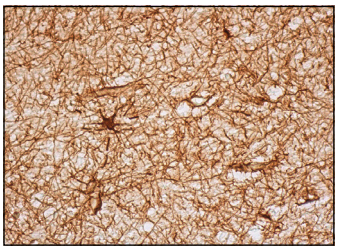
STORAGE

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

DATA



GFAP (F-7): sc-166458. Western blot analysis of GFAP expression in non-transfected: sc-117752 (**A**) and human GFAP transfected: sc-115582 (**B**) 293T whole cell lysates.



GFAP (F-7): sc-166458. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of astrocytes and neuropil staining.

SELECT PRODUCT CITATIONS

1. Razafimanjato, H., et al. 2011. The ribotoxin deoxynivalenol affects the viability and functions of glial cells. Glia 59: 1672-1683.
2. Santos, D., et al. 2013. Evaluation of neurobehavioral and neuroinflammatory end-points in the post-exposure period in rats sub-acutely exposed to manganese. Toxicology 314: 95-99.
3. Karki, P., et al. 2014. Yin Yang 1 is a repressor of glutamate transporter EAAT2, and it mediates manganese-induced decrease of EAAT2 expression in astrocytes. Mol. Cell. Biol. 34: 1280-1289.
4. Rojewska, E., et al. 2016. Pharmacological kynurenine 3-monooxygenase enzyme inhibition significantly reduces neuropathic pain in a rat model. Neuropharmacology 102: 80-91.
5. Sowa, J.E., et al. 2017. Prenatal stress affects viability, activation, and chemokine signaling in astroglial cultures. J. Neuroimmunol. 311: 79-87.
6. Li, X.H., et al. 2018. Expression of SIRT3 in various glial cell types in the periventricular white matter in the neonatal rat brain after hypoxia. Tissue Cell 52: 1-8.
7. Jiang, J., et al. 2019. Intranasal MMI-0100 attenuates $A\beta_{1-42}$- and LPS-induced neuroinflammation and memory impairments via the MK2 signaling pathway. Front. Immunol. 10: 2707.
8. Lee, D.G., et al. 2020. Peroxiredoxin 5 deficiency exacerbates iron overload-induced neuronal death via ER-mediated mitochondrial fission in mouse hippocampus. Cell Death Dis. 11: 204.
9. Abbas, H., et al. 2021. Superparamagnetic iron oxide loaded chitosan coated bilosomes for magnetic nose to brain targeting of resveratrol. Int. J. Pharm. 610: 121244.

RESEARCH USE

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