SANTA CRUZ BIOTECHNOLOGY, INC.

GFAP (F-2): sc-166481

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.

CHROMOSOMAL LOCATION

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

SOURCE

GFAP (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-22 at the N-terminus of GFAP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GFAP (F-2) is available conjugated to agarose (sc-166481 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166481 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166481 PE), fluorescein (sc-166481 FITC), Alexa Fluor® 488 (sc-166481 AF488), Alexa Fluor® 546 (sc-166481 AF546), Alexa Fluor® 594 (sc-166481 AF594) or Alexa Fluor® 647 (sc-166481 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166481 AF680) or Alexa Fluor® 790 (sc-166481 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166481 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GFAP (F-2) 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.

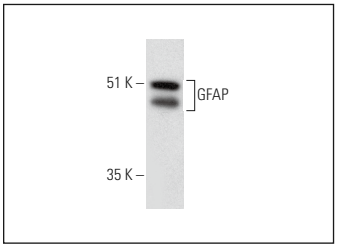
Molecular Weight of GFAP: 50 kDa.

Positive Controls: human brain extract: sc-364375.

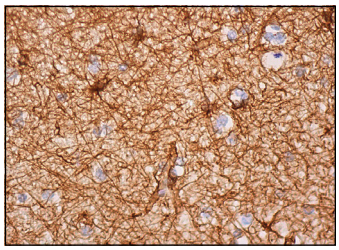
STORAGE

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

DATA



GFAP (F-2): sc-166481. Western blot analysis of GFAP expression in human brain tissue extract.



GFAP (F-2): sc-166481. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of astrocytes and neuropil staining.

SELECT PRODUCT CITATIONS

1. Khazaei, M.R., et al. 2010. Nicotine reduces the cytotoxic effect of glycated proteins on microglial cells. Neurochem. Res. 35: 548-558.
2. Pan, H., et al. 2011. Depletion of Nrf2 enhances inflammation induced by oxyhemoglobin in cultured mice astrocytes. Neurochem. Res. 36: 2434-2441.
3. Ying, C., et al. 2012. Neural differentiation of rat adipose-derived stem cells *in vitro*. Cell. Mol. Neurobiol. 32: 1255-1263.
4. Colle, D., et al. 2013. Probucol increases striatal glutathione peroxidase activity and protects against 3-nitropropionic acid-induced pro-oxidative damage in rats. PLoS ONE 8: e67658.
5. Lee, K.I., et al. 2016. Role of transient receptor potential ankyrin 1 channels in Alzheimer's disease. J. Neuroinflammation 13: 92.
6. Liu, Z., et al. 2016. Leukocyte infiltration triggers seizure recurrence in a rat model of temporal lobe epilepsy. Inflammation 39: 1090-1098.
7. Zhang, S., et al. 2017. m^6A demethylase ALKBH5 maintains tumorigenicity of glioblastoma stem-like cells by sustaining FOXM1 expression and cell proliferation program. Cancer Cell 31: 591-606.e6.
8. Bouhrira, N., et al. 2020. Disturbed flow disrupts the blood-brain barrier in a 3D bifurcation model. Biofabrication 12: 025020.
9. Dariel, A., et al. 2020. Analysis of enteric nervous system and intestinal epithelial barrier to predict complications in Hirschsprung's disease. Sci. Rep. 10: 21725.
10. Cai, H.Y., et al. 2021. Adjusting vascular permeability, leukocyte infiltration, and microglial cell activation to rescue dopaminergic neurons in rodent models of Parkinson's disease. NPJ Parkinsons Dis. 7: 91.

RESEARCH USE

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