

p-GFAP (Ser 13): sc-32956

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. In cytokinesis, the p-Ser 8 residues become dephosphorylated, whereas Thr 7, Ser 13 (Ser 12 in mouse) and Ser 34 in glial filaments at the cleavage furrow become the preferred sites of phosphorylation.

REFERENCES

1. Matsuoka, Y., et al. 1992. Two different protein kinases act on a different time schedule as glial filament kinases during mitosis. *EMBO J.* 11: 2895-2902.
2. McLendon, R.E., et al. 1994. Immunohistochemistry of the glial fibrillary acidic protein: basic and applied considerations. *Brain Pathol.* 4: 221-228.
3. Eng, L.F., et al. 1994. GFAP and astrogliosis. *Brain Pathol.* 4: 229-237.
4. Inagaki, M., et al. 1994. Glial fibrillary acidic protein: dynamic property and regulation by phosphorylation. *Brain Pathol.* 4: 239-243.
5. Brenner, M. 1994. Structure and transcriptional regulation of the GFAP gene. *Brain Pathol.* 4: 245-257.
6. Laping, N.J., et al. 1994. Glial fibrillary acidic protein: regulation by hormones, cytokines, and growth factors. *Brain Pathol.* 4: 259-275.
7. O'Callaghan, J.P. 1994. Biochemical analysis of glial fibrillary acidic protein as a quantitative approach to neurotoxicity assessment: advantages, disadvantages and application to the assessment of NMDA receptor antagonist-induced neurotoxicity. *Psychopharmacol. Bull.* 30: 549-554.

CHROMOSOMAL LOCATION

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

SOURCE

p-GFAP (Ser 13) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 13 of GFAP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32956 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

p-GFAP (Ser 13) is recommended for detection of Ser 13 phosphorylated GFAP of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-GFAP (Ser 13) is also recommended for detection of correspondingly phosphorylated Ser on GFAP in additional species, including equine and porcine.

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

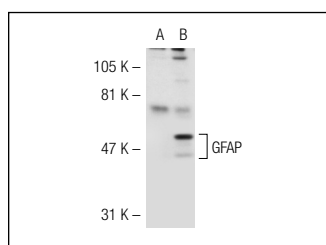
Molecular Weight of p-GFAP: 50-55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-87 MC cell lysate: sc-2411 or SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-GFAP (Ser 13): sc-32956. Western blot analysis of GFAP phosphorylation in non-transfected: sc-117752 (A) and human GFAP transfected: sc-115582 (B) 293T whole cell lysates.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.