

# p-GFAP (Ser 12): sc-32955

## 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

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- Brenner, M. 1994. Structure and transcriptional regulation of the GFAP gene. *Brain Pathol.* 4: 245-257.
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- 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.
- Halliday, G.M., et al. 1996. Glial fibrillary acidic protein (GFAP) immunohistochemistry in human cortex: a quantitative study using different antisera. *Neurosci. Lett.* 209: 29-32.
- Kros, J.M., et al. 1996. Proliferation of gemistocytic cells and glial fibrillary acidic protein (GFAP)-positive oligodendroglial cells in gliomas: a MIB-1/GFAP double labeling study. *Acta Neuropathol.* 91: 99-103.

## CHROMOSOMAL LOCATION

Genetic locus: Gfap (mouse) mapping to 11 E1.

## SOURCE

p-GFAP (Ser 12) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 12 phosphorylated GFAP of mouse origin.

## STORAGE

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

## 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-32955 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-GFAP (Ser 12) is recommended for detection of Ser 12 phosphorylated GFAP of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

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

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

## 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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) 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.

## SELECT PRODUCT CITATIONS

- Yang, J., et al. 2013. Proteomics reveals intersexual differences in the rat brain hippocampus. *Anat. Rec.* 296: 462-469.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.