p-GAP-43 (Ser 41): sc-17109

BACKGROUND

GAP-43 is a neural protein kinase C (PKC) substrate enriched in nerve growth cones that is implicated in growth cone plasticity. Endogenous growth cone GAP-43 is phosphorylated at multiple sites, on both Serine and Threonine residues. Stimulation of PKC activity increases the phosphorylation of only those proteolytic fragments containing Ser 41. However, phosphorylation is predominantly associated with fragments not containing Ser 41. Basic fibroblast growth factor promotes GAP-43 translocation from the cytosol to adherent membrane patches and stimulates GAP-43 phosphorylation, mainly at Ser 41. The stimulation of neurite outgrowth by NCAM also requires GAP-43 function; and GAP-43 phosphorylation in isolated growth cones occurs via an FGF receptor-dependent increase in arachidonic acid. Phosphorylated GAP-43 stabilizes long actin filaments indicating that post-translational modifications of GAP-43, which can be regulated in response to extracellular signals, have the ability to directly influence the structure of the actin cytoskeleton.

CHROMOSOMAL LOCATION

Genetic locus: GAP43 (human) mapping to 3q13.31; Gap43 (mouse) mapping to 16 B4.

SOURCE

p-GAP-43 (Ser 41) is available as either goat (sc-17109) or rabbit (sc-17109-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 41 phosphorylated GAP-43 of mouse 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-17109-P (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-GAP-43 (Ser 41) is recommended for detection of Ser 41 phosphorylated GAP-43 of mouse, rat and human 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), 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).

p-GAP-43 (Ser 41) is also recommended for detection of correspondingly phosphorylated GAP-43 in additional species, including equine, canine, bovine, porcine and avian.


Molecular Weight of p-GAP-43: 43 kDa.

Positive Controls: mouse brain extract: sc-2253.

STORAGE

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

DATA

SELECT PRODUCT CITATIONS


RESEARCH USE

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