

# GSK-3 $\alpha$ (H-75): sc-7879

## BACKGROUND

Glycogen synthase kinase 3, or GSK-3, is a serine/threonine, proline-directed kinase involved in a diverse array of signaling pathways, including glycogen synthesis and cellular adhesion, and has been implicated in Alzheimer's disease. Two forms of GSK-3, designated GSK-3 $\alpha$  and GSK-3 $\beta$ , have been identified and differ in their subcellular localization. Tau, a microtubule-binding protein which serves to stabilize microtubules in growing axons, is found to be hyper-phosphorylated in paired helical filaments (PHF), the major fibrous component of neurofibrillary lesions associated with Alzheimer's disease. Hyperphosphorylation of Tau is thought to be the critical event leading to the assembly of PHF. Six Tau protein isoforms have been identified, all of which are phosphorylated by GSK-3. This presents the possibility that miscues in GSK-3 signaling contribute to the onset of Alzheimer's disease.

## CHROMOSOMAL LOCATION

Genetic locus: GSK3A (human) mapping to 19q13.2; Gsk3a (mouse) mapping to 7 A3.

## SOURCE

GSK-3 $\alpha$  (H-75) is a rabbit polyclonal antibody raised against amino acids 408-483 mapping at the C-terminus of glycogen synthase kinase-3 $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

GSK-3 $\alpha$  (H-75) is recommended for detection of GSK-3 $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

GSK-3 $\alpha$  (H-75) is also recommended for detection of GSK-3 $\alpha$  in additional species, including porcine.

Suitable for use as control antibody for GSK-3 $\alpha$  siRNA (h): sc-29339, GSK-3 $\alpha$  siRNA (m): sc-35526, GSK-3 $\alpha$  shRNA Plasmid (h): sc-29339-SH, GSK-3 $\alpha$  shRNA Plasmid (m): sc-35526-SH, GSK-3 $\alpha$  shRNA (h) Lentiviral Particles: sc-29339-V and GSK-3 $\alpha$  shRNA (m) Lentiviral Particles: sc-35526-V.

Molecular Weight of GSK-3 $\alpha$ : 51 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, rat brain extract: sc-2392 or A549 cell lysate: sc-2413.

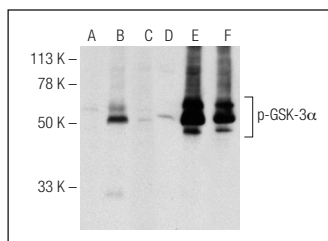
## STORAGE

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

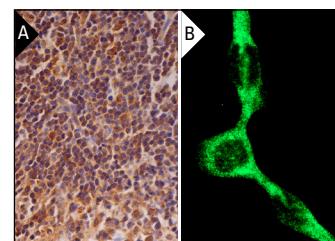
## RESEARCH USE

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

## DATA



Western blot analysis of GSK-3 $\alpha$  phosphorylation in non-transfected: sc-117752 (A,D), untreated human GSK-3 $\alpha$  transfected: sc-114699 (B,E) and lambda protein phosphatase (sc-200312A) treated human GSK-3 $\alpha$  transfected: sc-114699 (C,F) 293T whole cell lysates. Antibodies tested include p-GSK-3 $\alpha$ / $\beta$  (Tyr 279/Tyr 216): sc-11758 (A,B,C) and GSK-3 $\alpha$  (H-75): sc-7879 (D,E,F).



GSK-3 $\alpha$  (H-75): sc-7879. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers (A). Immunofluorescence staining of methanol-fixed A-431 cells showing cytoplasmic staining (B).

## SELECT PRODUCT CITATIONS

- Gonzalez-Robayna, I.J., et al. 2000. Follicle-stimulating hormone (FSH) stimulates phosphorylation and activation of protein kinase B (PKB/Akt) and serum and glucocorticoid-induced kinase (SGK): evidence for A kinase-independent signaling by FSH in granulosa cells. *Mol. Endocrinol.* 14: 1283-1300.
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Try **GSK-3 $\alpha$ / $\beta$  (0011-A): sc-7291** or **GSK-3 $\alpha$  (H-12): sc-5264**, our highly recommended monoclonal alternatives to GSK-3 $\alpha$  (H-75). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **GSK-3 $\alpha$ / $\beta$  (0011-A): sc-7291**.