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GSK-3 α (h3): 293T Lysate: sc-176245

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 α and GSK-3 β , 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. Hyper-phosphorylation 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.

REFERENCES

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4. Sperber, B.R., et al. 1995. Glycogen synthase kinase-3 β phosphorylates Tau protein at multiple sites in intact cells. *Neurosci. Lett.* 197: 149-153.
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CHROMOSOMAL LOCATION

Genetic locus: GSK3A (human) mapping to 19q13.2.

PRODUCT

GSK-3 α (h3): 293T Lysate represents a lysate of human GSK-3 α transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20 $^{\circ}$ C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

GSK-3 α (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive GSK-3 α antibodies. Recommended use: 10-20 μ l per lane.

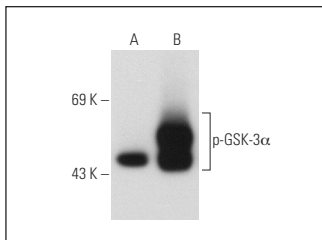
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

p-GSK-3 α (9B8): sc-81497 is recommended as a positive control antibody for Western Blot analysis of enhanced human GSK-3 α expression in GSK-3 α transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048.

DATA



p-GSK-3 α (9B8): sc-81497. Western blot analysis of GSK-3 α phosphorylation in non-transfected: sc-117752 (A) and human GSK-3 α transfected: sc-176245 (B) 293T whole cell lysates.

PROTOCOLS

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