

# Phospho-GSK-3 $\alpha$ (Ser21) (27E5) Monoclonal Antibody

✓ 0.15 mg

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This product is for *in vitro* research use only and is not intended for use in humans or animals.

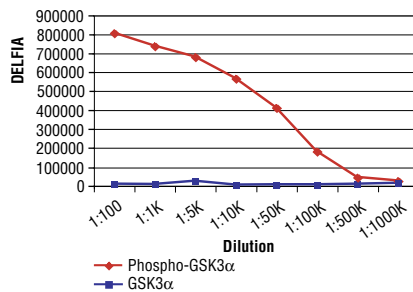
Applications	Species Cross-Reactivity	Molecular Wt.	Source	Isotype
E-P	H	51 kDa	Mouse	IgG2b

**Description:** This antibody is formulated in PBS (no BSA/ no glycerol) and quality controlled for use in ELISA and other drug discovery applications. This is a sample antibody and intended for use by drug discovery scientists.

**Background:** Glycogen synthase kinase-3 (GSK-3) was initially identified as an enzyme that regulated glycogen synthesis in response to insulin (1). GSK-3 is a ubiquitously expressed serine/threonine protein kinase that phosphorylates and inactivates glycogen synthase. GSK-3 is a critical downstream element of the PI3 kinase/Akt cell survival pathway, and its activity can be inhibited by Akt-mediated phosphorylation at Ser21 of GSK-3 $\alpha$  and Ser9 of GSK-3 $\beta$  (2,3). GSK-3 has been implicated in the regulation of cell fate in *Dicyostelium*, and is a component of the Wnt signaling pathway required for *Drosophila*, *Xenopus* and mammalian development (4). GSK-3 has been shown to regulate cyclin D1 proteolysis and subcellular localization (5).

**Specificity/Sensitivity:** Phospho-GSK-3 $\alpha$  (Ser21) (27E5) Monoclonal Antibody can be used in high throughput kinase assays and drug discovery applications. It detects peptides derived from GSK-3 $\alpha$  phosphorylated at Ser21.

**Source/Purification:** Monoclonal antibody is produced by immunizing mice with a synthetic phospho-peptide (KLH-coupled) corresponding to residues surrounding Ser21 of human GSK-3 $\alpha$ . Antibody is purified using protein G affinity chromatography.



DELIFA® data generated using biotinylated phospho- and nonphospho-peptides. Protocols and S/N values available upon request.

### Background References:

- (1) Welsh, G.I. et al. (1996) *Trends Cell. Biol.* 6, 274–279.
- (2) Srivastava, A.K. and Pandey, S.K. (1998) *Mol. Cell. Biochem.* 182, 135–141.
- (3) Cross, D.A. et al. (1995) *Nature* 378, 785–789.
- (4) Nusse, R. (1997) *Cell* 89, 321–323.
- (5) Diehl, J.A. et al. (1998) *Genes Dev.* 12, 3499–3511.

**Storage:** Supplied in 58 mM Na<sub>2</sub>HPO<sub>4</sub>, 17 mM NaH<sub>2</sub>PO<sub>4</sub> and 68 mM NaCl (pH 7.4). Store at 4°C. Do not aliquot the antibody.

### Companion Products:

Serine/Threonine Kinase Substrate Screening Kit #7400  
Phospho-GSK-3 $\alpha$ / $\beta$  (Ser21/9) Antibody #9331  
Phospho-GSK-3 $\beta$  (Ser9) Antibody #9336  
GSK-3 $\alpha$ / $\beta$  (Ser21/9) Biotinylated Peptide #1063

