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Monoclonal Antibody to GSK-3

Glycogen Synthase Kinase-3 from human, rat, porcine, and other species

Monoclonal antibody 7G-1F2 recognizes GSK-3 in most species. GSK-3 has been highly conserved during evolution, and homolog genes have been identified in virtually every eukaryotic genome investigated. In mammals, GSK-3 is encoded by two genes known as *gsk-3α* and *gsk-3β* encoding GSK-3α (483 aa in humans) and GSK-3β (433 aa) proteins with apparent molecular masses of 51 and 47kDa, respectively. Both isoforms are almost identical (98%) within their ATP binding pocket but differ in their N- and C-terminal sequences. Monoclonal antibody 7G-1F2 was generated against the phosphorylated catalytic domain (between sub-domain VII and VIII) of the Drosophila GSK-3 / shaggy enzyme, containing the phospho-Tyrosine 279 of human GSK-3α and phospho-Tyrosine 216 of human GSK-3β, respectively. This antibody does not react with GSK-3 or shaggy expressed in E. coli, but will react with the corresponding natural enzyme or the one expressed in Sf9 cells. The observed preference for the phosphorylated form is about 50:1.

TECHNICAL AND ANALYTICAL CHARACTERISTICS

Product Number:	T-1434 (Lot 01PO1214)
Clone:	7G-1F2
Host species, isotype:	Mouse IgG1 kappa
Quantity:	100µg
Format:	Affinity purified, lyophilized
	Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer, and 0.01% (v/v) Kathon™ CG as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C from date of purchase.
	Stock solution or aliquots thereof: 1 year at -20°C. Avoid freeze-thaw cycles.
Applications:	Tested for immunohistochemistry (IHC).
	Approximate working dilution for IHC: Frozen sections: not tested Paraffin sections: 1µg/ml (1:200); pretreatment in microwave with citrate buffer for antigen retrieval is recommended
	Optimal dilutions should be determined by the end user.

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	Suggested positive control: human brain
	Please see **www.bma.ch** for protocols and general information
Immunogen:	Synthetic peptide conjugate corresponding to (C)^{203}KQLLHGEPNVS^{phospho}YICSR^{219}Y from Drosophila.
Protein database:	human-P49840, rat-P18265, pig-I6YP72
Antigen, epitope:	The antigen is GSK-3; the epitope is located in the catalytic domain between ^{268}K to ^{284}Y of GSK-3α, and ^{205}K to ^{221}Y from GSK-3β, respectively.
Antigen distribution:	The antigen has been described in the testis, thymus, prostate and ovary, weak in the brain, lung and kidney.
Specificity:	**Human:** GSK-3, phosphorylated at ^{279}Y (GSK-3α) / ^{216}Y (GSK-3β).
	Other: all species tested so far.

Selected references

Harwood A.J. et al.: Glycogen synthase kinase 3 regulates cell fate in Dictyostelium. Cell **80**: 139-48 (1995).

For in vitro research only. This product contains Kathon™ CG as a preservative.

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