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14-3-3 η (D23B7) Rabbit mAb

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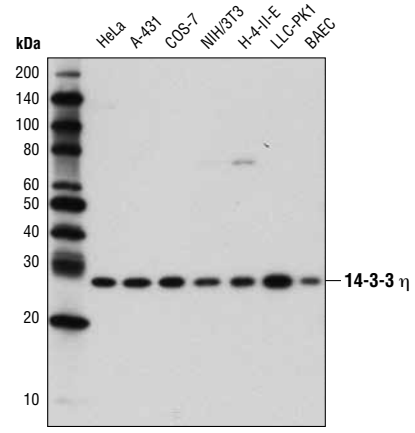
Entrez-Gene ID #7533
Swiss-Prot Acc. #Q04917

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, M, R, Mk, B, Pg	27 kDa	Rabbit **

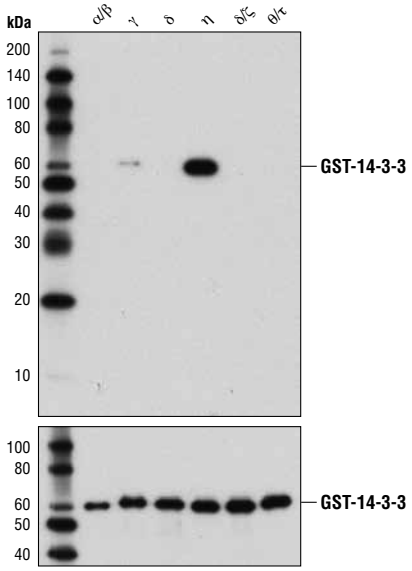
Background: The 14-3-3 family of proteins plays a key regulatory role in signal transduction, checkpoint control, apoptotic and nutrient-sensing pathways (1,2). 14-3-3 proteins are highly conserved and ubiquitously expressed. There are at least seven isoforms, β, γ, ε, σ, ζ, τ, and η that have been identified in mammals. The initially described α and δ isoforms are confirmed to be phosphorylated forms of β and ζ, respectively (3). Through their amino-terminal α helical region, 14-3-3 proteins form homo- or heterodimers that interact with a wide variety of proteins: transcription factors, metabolic enzymes, cytoskeletal proteins, kinases, phosphatases, and other signaling molecules (3,4). The interaction of 14-3-3 proteins with their targets is primarily through a phospho-Ser/Thr motif. However, binding to divergent phospho-Ser/Thr motifs, as well as phosphorylation independent interactions has been observed (4). 14-3-3 binding masks specific sequences of the target protein, and therefore, modulates target protein localization, phosphorylation state, stability, and molecular interactions (1-4). 14-3-3 proteins may also induce target protein conformational changes which modify target protein function (4,5). Distinct temporal and spatial expression patterns of 14-3-3 isoforms have been observed in development and in acute response to extracellular signals and drugs, suggesting that 14-3-3 isoforms may perform different functions despite their sequence similarities (4). Several studies suggest that 14-3-3 isoforms are differentially regulated in cancer and neurological syndromes (2,3).

Specificity/Sensitivity: 14-3-3 η (D23B7) Rabbit mAb recognizes endogenous levels of total 14-3-3 η. This antibody shows weak cross-reactivity with 14-3-3 γ but does not detect any other 14-3-3 family isoforms.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu37 of human 14-3-3 η protein.



Western blot analysis of whole cell extracts from various cell lines using 14-3-3η (D23B7) Rabbit mAb.



Isoform specificity of 14-3-3η (D23B7) Rabbit mAb. Recombinant, purified, GST-tagged 14-3-3 protein isoforms (2 µg each were resolved by SDS-PAGE, transferred to nitrocellulose and blotted with either 14-3-3η (D23B7) Rabbit mAb (upper) or GST (91G1) Rabbit mAb #2625 (lower).

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Muslin, A.J. and Xing, H. (2000) *Cell Signal* 12, 703-9.

(2) Mackintosh, C. (2004) *Biochem. J.* 381, 329-42.

(3) Dougherty, M.K. and Morrison, D.K. (2004) *J. Cell Sci.* 117, 1875-84.

(4) Yaffe, M.B. (2002) *FEBS Lett.* 513, 53-7.

(5) Bridges, D. and Moorhead, G.B. (2004) *Sci. STKE* 2004, re10.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.