

14-3-3 ζ/δ (D7H5) Rabbit mAb



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rev. 02/23/16

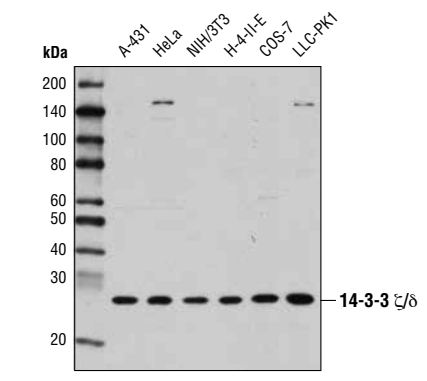
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Applications W Endogenous	Species Cross-Reactivity* H, M, R, Mk, Pg, (C)	Molecular Wt. 28 kDa	Isotype Rabbit IgG**
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Background: The 14-3-3 family of proteins plays a key regulatory role in signal 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 that 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 ζ/δ (D7H5) Rabbit mAb recognizes endogenous levels of total 14-3-3 ζ/δ protein. Although this antibody demonstrates a strong preference for 14-3-3 ζ/δ , it will also detect purified, recombinant 14-3-3 α/β . It does not cross-react with any other known mammalian 14-3-3 isoforms.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg80 of human 14-3-3 ζ/δ protein.



Western blot analysis of extracts from various cell lines using 14-3-3 ζ/δ (D7H5) Rabbit mAb.

Entrez-Gene ID #7534
Swiss-Prot Acc. #P63104

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/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.

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