

14-3-3 (pan) Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk B Pg	Endogenous	27-29	Rabbit	#P62258, #P61981, #P31946, #P27348, #Q04917, #P31947, #P63104	7531, 7532, 7529, 10971, 7533, 2810, 7534

Product Usage Information	Application	Dilution
	Western Blotting	1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.	
Specificity/Sensitivity	14-3-3 (pan) Antibody recognizes endogenous levels of total 14-3-3 protein. This antibody detects all known isoforms of mammalian 14-3-3 proteins (β/α, γ, ε, η, ζ/δ, θ/τ and σ).	
Species predicted to react based on 100% sequence homology	Chicken, D. melanogaster, Xenopus, Zebrafish, S. cerevisiae, C. elegans	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Met223 of human 14-3-3γ protein. Antibodies are purified by protein A and peptide affinity chromatography.	
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).	
Background References	<ol style="list-style-type: none"> 1. Muslin, A.J. and Xing, H. (2000) <i>Cell Signal</i> 12, 703-9. 2. Mackintosh, C. (2004) <i>Biochem J</i> 381, 329-42. 3. Dougherty, M.K. and Morrison, D.K. (2004) <i>J Cell Sci</i> 117, 1875-84. 4. Yaffe, M.B. (2002) <i>FEBS Lett</i> 513, 53-7. 5. Bridges, D. and Moorhead, G.B. (2004) <i>Sci STKE</i> 2004, re10. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	W: Western Blotting
Cross-Reactivity Key	H: Human M: Mouse R: Rat Mk: Monkey B: Bovine Pg: Pig

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