

# 14-3-3 Family Antibody Sampler Kit



✓ 1 Kit  
(6 x 20 µl)

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**For Research Use Only. Not For Use In Diagnostic Procedures.**

Products Included	Product #	Quantity	Mol. Wt.	Isotype
14-3-3 β/α Antibody	9636	20 µl	28 kDa	Rabbit IgG
14-3-3 γ (D15B7) Rabbit mAb	5522	20 µl	27 kDa	Rabbit IgG
14-3-3 ε Antibody	9635	20 µl	28 kDa	Rabbit IgG
14-3-3 ζ/δ (D7H5) Rabbit mAb	7413	20 µl	28 kDa	Rabbit IgG
14-3-3 η (D23B7) Rabbit mAb	5521	20 µl	27 kDa	Rabbit IgG
14-3-3 τ Antibody	9638	20 µl	28 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

See [www.cellsignal.com](http://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions and additional application protocols.

**Description:** The 14-3-3 Family Antibody Sampler Kit provides an economical means to investigate the expression of various 14-3-3 isoforms within the cell. The kit includes enough antibody to perform two western blot experiments with each primary antibody.

**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, α, 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:** Each antibody in the 14-3-3 Family Antibody Sampler Kit detects endogenous levels of its respective target.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to the sequences of human 14-3-3 β/α, 14-3-3 ε and 14-3-3 τ proteins. Antibodies are purified by protein A and peptide affinity chromatography. Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg80 of human 14-3-3 ζ/δ protein, Leu37 of human 14-3-3 η protein and Ile79 of human 14-3-3 γ protein.

**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.

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

**Recommended Antibody Dilutions:**  
Western blotting 1:1000

Please visit [www.cellsignal.com](http://www.cellsignal.com) for validation data and a complete listing of recommended complementary products.