

14-3-3 Family Antibody Sampler Kit

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1 Kit (6 x 20 microliters)

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For Research Use Only. Not for Use in Diagnostic Procedures.

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

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

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 contains enough primary and secondary antibodies to perform two Western blot experiments.

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.

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

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- Mackintosh, C. (2004) *Biochem J* 381, 329-42.
- Dougherty, M.K. and Morrison, D.K. (2004) *J Cell Sci* 117, 1875-84.
- Yaffe, M.B. (2002) *FEBS Lett* 513, 53-7.
- Bridges, D. and Moorhead, G.B. (2004) *Sci STKE* 2004, re10.

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