

14-3-3 ζ (G-2): sc-518031

BACKGROUND

14-3-3 proteins regulate many cellular processes relevant to cancer biology, notably apoptosis, mitogenic signaling and cell-cycle checkpoints. Seven isoforms comprise this family of signaling intermediates, denoted 14-3-3 β , γ , ϵ , ζ , η , θ and σ . 14-3-3 proteins form dimers that present two binding sites for ligand proteins, thereby bringing together two proteins that may not otherwise associate. These ligands largely share a 14-3-3 consensus binding motif and exhibit serine/threonine phosphorylation. 14-3-3 proteins function in broad regulation of these ligand proteins, by cytoplasmic sequestration, occupation of interaction domains and import/export sequences, prevention of degradation, activation/repression of enzymatic activity and facilitation of protein modification, and thus loss of expression contributes to a vast array of pathogenic cellular activities.

CHROMOSOMAL LOCATION

Genetic locus: YWHAZ (human) mapping to 8q22.3, YWHAE (human) mapping to 17p13.3; Ywhaz (mouse) mapping to 15 B3.1, Ywhae (mouse) mapping to 11 B5.

SOURCE

14-3-3 ζ (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 122-140 within an internal region of 14-3-3 ζ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

14-3-3 ζ (G-2) is available conjugated to agarose (sc-518031 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518031 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518031 PE), fluorescein (sc-518031 FITC), Alexa Fluor[®] 488 (sc-518031 AF488), Alexa Fluor[®] 546 (sc-518031 AF546), Alexa Fluor[®] 594 (sc-518031 AF594) or Alexa Fluor[®] 647 (sc-518031 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518031 AF680) or Alexa Fluor[®] 790 (sc-518031 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

14-3-3 ζ (G-2) is recommended for detection of 14-3-3 ζ and, to a lesser extent, 14-3-3 ϵ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

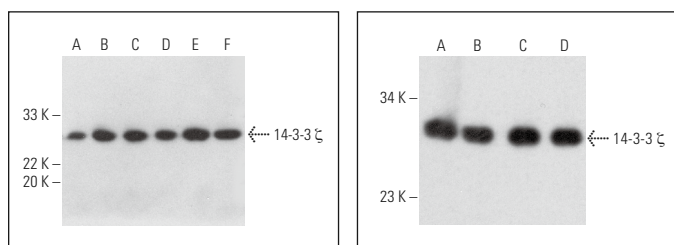
Molecular Weight of 14-3-3 ζ : 30 kDa.

Positive Controls: TK-1 whole cell lysate: sc-364798, M1 whole cell lysate: sc-364782 or Neuro-2A whole cell lysate: sc-364185.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



14-3-3 ζ (G-2) HRP: sc-518031 HRP. Direct western blot analysis of 14-3-3 ζ expression in TK-1 (A), M1 (B), Sol8 (C), HL-60 (D), NIH/3T3 (E) and SK-MEL-28 (F) whole cell lysates.

14-3-3 ζ (G-2): sc-518031. Western blot analysis of 14-3-3 ζ expression in Neuro-2A (A), BC₃H1 (B), EOC 20 (C) and JC (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Abdrabou, A., et al. 2020. Differential subcellular distribution and translocation of seven 14-3-3 isoforms in response to EGF and during the cell cycle. *Int. J. Mol. Sci.* 21: 318.
2. Mei, J., et al. 2021. YWHAZ interacts with DAAM1 to promote cell migration in breast cancer. *Cell Death Discov.* 7: 221.
3. Huo, Q., et al. 2022. Clinicopathological features and prognostic evaluation of UBR5 in liver cancer patients. *Pathol. Oncol. Res.* 28: 1610396.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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