

pan 14-3-3 (B-8): sc-133233

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.

REFERENCES

- Morrison, D. 1994. 14-3-3: modulators of signaling proteins? *Science* 266: 56-57.
- Muratake, T., et al. 1996. Structural organization and chromosomal assignment of the human 14-3-3 η chain gene (YWHAH). *Genomics* 36: 63-69.

SOURCE

pan 14-3-3 (B-8) is a mouse monoclonal antibody raised against amino acids 1-246 representing full length 14-3-3 β of human origin.

PRODUCT

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

pan 14-3-3 (B-8) is available conjugated to agarose (sc-133233 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133233 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133233 PE), fluorescein (sc-133233 FITC), Alexa Fluor® 488 (sc-133233 AF488), Alexa Fluor® 546 (sc-133233 AF546), Alexa Fluor® 594 (sc-133233 AF594) or Alexa Fluor® 647 (sc-133233 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133233 AF680) or Alexa Fluor® 790 (sc-133233 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

pan 14-3-3 (B-8) is recommended for detection of pan 14-3-3 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

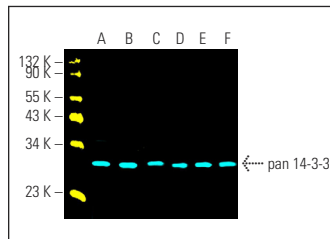
Molecular Weight of pan 14-3-3: 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

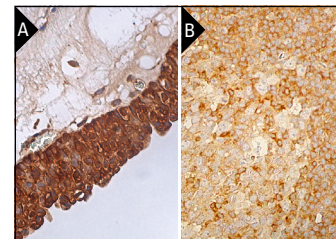
STORAGE

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

DATA



pan 14-3-3 (B-8) Alexa Fluor® 647: sc-133233 AF647. Direct fluorescent western blot analysis of pan 14-3-3 expression in Jurkat (A), MOLT-4 (B), NIH/3T3 (C), Ramos (D), HeLa (E) and K-562 (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 488: sc-516790.



pan 14-3-3 (B-8): sc-133233. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in germinal center and cells in non-germinal center. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG Fc BP-B: sc-533652 and ImmunoCruz® ABC Kit: sc-516216 (B).

SELECT PRODUCT CITATIONS

- Anwar, T., et al. 2019. ER-targeted Beclin 1 supports autophagosome biogenesis in the absence of ULK1 and ULK2 kinases. *Cells* 8: 475.
- Carey, K.L., et al. 2020. TFEB transcriptional responses reveal negative feedback by BHLHE40 and BHLHE41. *Cell Rep.* 33: 108371.
- Schiavi-Ehrenhaus, L.J., et al. 2022. The early molecular events leading to COFILIN phosphorylation during mouse sperm capacitation are essential for acrosomal exocytosis. *J. Biol. Chem.* 298: 101988.
- Hu, F., et al. 2022. Vimentin binds to a novel tumor suppressor protein, GSPT1-238aa, encoded by circGSPT1 with a selective encoding priority to halt autophagy in gastric carcinoma. *Cancer Lett.* 545: 215826.
- Qu, J.H., et al. 2022. Proteomic landscape and deduced functions of the cardiac 14-3-3 protein interactome. *Cells* 11: 3496.
- Ujckova, H., et al. 2023. Protracted morphine withdrawal induces upregulation of peroxiredoxin II and reduces 14-3-3 protein levels in the rat brain cortex and hippocampus. *Brain Res.* 1813: 148428.
- Masato, A., et al. 2024. Sequestosome-1 (SQSTM1/p62) as a target in dopamine catabolite-mediated cellular dyshomeostasis. *Cell Death Dis.* 15: 424.
- Soukupova, J., et al. 2024. A comprehensive study evaluating germline FANCG variants in predisposition to breast and ovarian cancer. *Cancer Med.* 13: e70103.

RESEARCH USE

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