

14-3-3 ζ (L-15): sc-31964

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 α . 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

1. Morrison, D., et al. 1994. 14-3-3: modulators of signaling proteins? *Science* 266: 56-57.
2. Rittinger, K., et al. 1999. Structural analysis of 14-3-3 phosphopeptide complexes identifies a dual role for the nuclear export signal of 14-3-3 in ligand binding. *Mol. Cell* 4: 153-166.
3. Hermeking, H. 2003. The 14-3-3 cancer connection. *Nat. Rev. Cancer* 3: 931-943.
4. Nagata-Ohashi, K., et al. 2004. A pathway of neuregulin-induced activation of cofilin-phosphatase slingshot and cofilin in lamellipodia. *J. Cell Biol.* 165: 465-471.

CHROMOSOMAL LOCATION

Genetic locus: YWHAZ (human) mapping to 8q23.1, YWHAB (human) mapping to 20q13.1; Ywhaz (mouse) mapping to 15 B3.1, Ywhab (mouse) mapping to 2 H3.

SOURCE

14-3-3 ζ (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 14-3-3 ζ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-31964 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

14-3-3 ζ (L-15) is recommended for detection of 14-3-3 ζ and, to a lesser extent, 14-3-3 α and 14-3-3 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

14-3-3 ζ (L-15) is also recommended for detection of 14-3-3 ζ and, to a lesser extent, 14-3-3 α and 14-3-3 β in additional species, including equine, canine, bovine, porcine and avian.

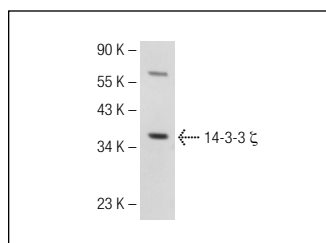
Molecular Weight of 14-3-3 ζ : 30 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HeLa whole cell lysate: sc-2200 or U-937 cell lysate: sc-2239.

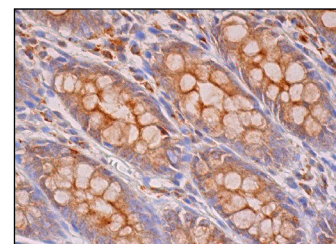
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



14-3-3 ζ (L-15): sc-31964. Western blot analysis of 14-3-3 ζ expression in HeLa whole cell lysate.



14-3-3 ζ (L-15): sc-31964. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Lesscher, H.M., et al. 2012. Amygdala 14-3-3 ζ as a novel modulator of escalating alcohol intake in mice. *PLoS ONE* 7: e37999.

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Try **14-3-3 ζ (1B3): sc-293415** or **pan 14-3-3 (B-8): sc-133233**, our highly recommended monoclonal alternatives to 14-3-3 ζ (L-15).