SANTA CRUZ BIOTECHNOLOGY, INC.

CHIP (N-13): sc-33265

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The Power to Question

BACKGROUND

CHIP (carboxy terminus of HSP 70-interacting protein), also designated STIP1 homology and U-box containing protein 1, HSPABP2, NY-CO-7, SDCCAG7 and STUB1, is a cytoplasmic E3 ubiquitin ligase that influences protein ubiquitylation. CHIP interacts with Smad1/Smad4 and blocks BMP signaling through the ubiquitin-mediated degradation of Smad proteins. It controls both association of HSP 70/HSP 90 chaperones with ErbB2 and down-regulation of ErbB2 induced by inhibitors of HSP 90. A 1.3-kb transcript is most abundant in striated muscle (heart and skeletal muscle), with lower expression in pancreas and brain.

REFERENCES

1. Ballinger, C.A., et al. 1999. Identification of CHIP, a novel tetratricopeptide repeat-containing protein that interacts with heat shock proteins and negatively regulates chaperone functions. Mol. Cell. Biol. 19: 4535-4545.
2. Jiang, J., et al. 2001. CHIP is a U-box-dependent E3 ubiquitin ligase: identification of HSC 70 as a target for ubiquitylation. J. Biol. Chem. 276: 42938-42944.
3. Xu, W., et al. 2002. Chaperone-dependent E3 ubiquitin ligase CHIP mediates a degradative pathway for c-ErbB2/Neu. Proc. Natl. Acad. Sci. USA 99: 12847-12852.
4. Imai, Y., et al. 2002. CHIP is associated with Parkin, a gene responsible for familial Parkinson's disease, and enhances its ubiquitin ligase activity. Mol. Cell 10: 55-67.
5. Jiang, J., et al. 2003. Chaperone-dependent regulation of endothelial nitric-oxide synthase intracellular trafficking by the co-chaperone/ubiquitin ligase CHIP. J. Biol. Chem. 278: 49332-49341.
6. Schipper, R.G., et al. 2004. Intracellular localization of ornithine decarboxylase and its regulatory protein, antizyme-1. J. Histochem. Cytochem. 52: 1259-1266.
7. Alberti, S., et al. 2004. The cochaperone HspBP1 inhibits the CHIP ubiquitin ligase and stimulates the maturation of the cystic fibrosis transmembrane conductance regulator. Mol. Biol. Cell 15: 4003-4010.
8. Younger, J.M., et al. 2004. A foldable CFTRδF508 biogenic intermediate accumulates upon inhibition of the HSC 70-CHIP E3 ubiquitin ligase. J. Cell Biol. 167: 1075-1085.

CHROMOSOMAL LOCATION

Genetic locus: STUB1 (human) mapping to 16p13.3; Stub1 (mouse) mapping to 17 A3.3.

SOURCE

CHIP (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CHIP of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-33265 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CHIP (N-13) is recommended for detection of CHIP 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CHIP (N-13) is also recommended for detection of CHIP in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CHIP siRNA (h): sc-43555, CHIP siRNA (m): sc-44731, CHIP shRNA Plasmid (h): sc-43555-SH, CHIP shRNA Plasmid (m): sc-44731-SH, CHIP shRNA (h) Lentiviral Particles: sc-43555-V and CHIP shRNA (m) Lentiviral Particles: sc-44731-V.

Molecular Weight of CHIP: 35 kDa.

Positive Controls: A-10 cell lysate: sc-3806, HeLa whole cell lysate: sc-2200 or MIA PaCa-2 cell lysate: sc-2285.

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.

RESEARCH USE

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

PROTOCOLS

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