SANTA CRUZ BIOTECHNOLOGY, INC.

β-TrCP (N-15): sc-8862

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The Power to Question

BACKGROUND

β-TrCP (β-tranducin repeats containing protein), also designated E3RSIκB or FWD1, and HOS (homologous to slimb) are F-box proteins that function as substrate recognition subunits of ubiquitin ligases. HOS and β-TrCP differ in their amino terminal regions, but exhibit high homology within the F-box and WD40 repeat-containing regions. β-TrCP mediates ubiquitin/proteasome-dependent degradation of CD4 and ubiquitination of various proteins including IκB and β-catenin. HOS has also been shown to regulate the degradation of IκB and β-catenin in a similar manner.

REFERENCES

1. Hatakeyama, S., et al. 1990. Ubiquitin-dependent degradation of IκB-α is mediated by a ubiquitin ligase Skp1/Cul 1/F-box protein FWD1. Proc. Natl. Acad. Sci. USA 96: 3859-3863.
2. Margottin, F., et al. 1998. A novel human WD protein, h-β TrCp, that interacts with HIV-1 Vpu connects CD4 to the ER degradation pathway through an F-box motif. Mol. Cell 1: 565-574.
3. Yaron, A., et al. 1998. Identification of the receptor component of the IκB-α-ubiquitin ligase. Nature 396: 590-594.

CHROMOSOMAL LOCATION

Genetic locus: BTRC (human) mapping to 10q24.32; Btrc (mouse) mapping to 19 C3.

SOURCE

β-TrCP (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of β-TrCP of human origin.

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-8862 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-TrCP (N-15) is recommended for detection of β-TrCP 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).

β-TrCP (N-15) is also recommended for detection of β-TrCP in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for β-TrCP siRNA (h): sc-37178, β-TrCP siRNA (m): sc-37179, β-TrCP shRNA Plasmid (h): sc-37178-SH, β-TrCP shRNA Plasmid (m): sc-37179-SH, β-TrCP shRNA (h) Lentiviral Particles: sc-37178-V and β-TrCP shRNA (m) Lentiviral Particles: sc-37179-V.

Molecular Weight of β-TrCP: 60 kDa.

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.

SELECT PRODUCT CITATIONS

1. Swinney, D.C., et al. 2002. A small molecule ubiquitination inhibitor blocks NFκB-dependent cytokine expression in cells and rats. J. Biol. Chem. 277: 23573-23581.
2. Busino, L., et al. 2003. Degradation of Cdc25A by β-TrCP during S phase and in response to DNA damage. Nature 426: 87-91.
3. He, N., et al. 2005. Regulation of lung cancer cell growth and invasiveness by β-TrCP. Mol. Carcinog. 42: 18-28.
4. Muerkoster, S., et al. 2005. Increased expression of the E3-ubiquitin ligase receptor subunit β-TrCP1 relates to constitutive nuclear factor-κB activation and chemoresistance in pancreatic carcinoma cells. Cancer Res. 65: 1316-1324.
5. Noda, K., et al. 2005. Phosphorylated IκB-α is a component of Lewy body of Parkinson's disease. Biochem. Biophys. Res. Commun. 331: 309-317.
6. Ray, D., et al. 2005. Transforming growth factor β facilitates β-TrCP-mediated degradation of Cdc25A in a Smad3-dependent manner. Mol. Cell. Biol. 25: 3338-3347.
7. Irelan, J.T., et al. 2007. A role for IκB kinase 2 in bipolar spindle assembly. Proc. Natl. Acad. Sci. USA 104: 16940-16945.
8. Lin, R.K., et al. 2010. The tobacco-specific carcinogen NNK induces DNA methyltransferase 1 accumulation and tumor suppressor gene hypermethylation in mice and lung cancer patients. J. Clin. Invest. 120: 521-532.

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.