SANTA CRUZ BIOTECHNOLOGY, INC.

Cot (H-7): sc-373677

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The role of mitogen-activated protein kinases (MAPKs) in cell signaling pathways is well established. The rat gene Tpl-2, for tumor progression locus 2, and the human and mouse homologues c-Cot, for cancer osaka thyroid oncogene, encode a proto-oncogene serine/threonine protein kinase that was shown to play a role in the functional activation of the MAP kinase pathway. Overexpression of Cot induces MAP kinase activation in COS-1 and NIH/3T3 cells. Cot-mediated activation of MAP kinase is inhibited by both Ras N17, a dominant negative mutant of c-H-Ras, and Raf-1s621A, a dominant negative mutant of Raf-1, suggesting that Cot functions upstream of Ras and Raf-1. Other studies have shown that a kinase-negative, dominant negative mutant of Cot partially blocks Ras or Raf-1-induced MAP kinase activation, arguing that Cot functions downstream of Ras and Raf-1. To explain these contrasting findings, it has been suggested that Cot, Ras and Raf-1 may form a multimeric complex that phosphorylates MEK-1. Cot has also been shown to be implicated in T lymphocyte activation. Two forms of Cot are produced by alternative initiation of translation.

REFERENCES

1. Haubruk, H., et al. 1991. Ras p21: effects and regulation. Biochem. Biophys. Acta 1072: 215-229.
2. Roberts, T.M. 1992. A signal chain of events. Nature 360: 534-535.
3. Nishida, E., et al. 1993. The MAP kinase cascade is essential for diverse signal transduction pathways. Trends Biochem. Sci. 18: 128-131.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K8 (human) mapping to 10p11.23; Map3k8 (mouse) mapping to 18 A1.

SOURCE

Cot (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 441-467 at the C-terminus of Cot of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cot (H-7) is available conjugated to agarose (sc-373677 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373677 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373677 PE), fluorescein (sc-373677 FITC), Alexa Fluor® 488 (sc-373677 AF488), Alexa Fluor® 546 (sc-373677 AF546), Alexa Fluor® 594 (sc-373677 AF594) or Alexa Fluor® 647 (sc-373677 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373677 AF680) or Alexa Fluor® 790 (sc-373677 AF790), 200 µg/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

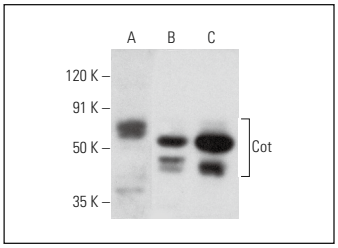
Cot (H-7) is recommended for detection of Cot of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cot siRNA (h): sc-35095, Cot siRNA (m): sc-35096, Cot shRNA Plasmid (h): sc-35095-SH, Cot shRNA Plasmid (m): sc-35096-SH, Cot shRNA (h) Lentiviral Particles: sc-35095-V and Cot shRNA (m) Lentiviral Particles: sc-35096-V.

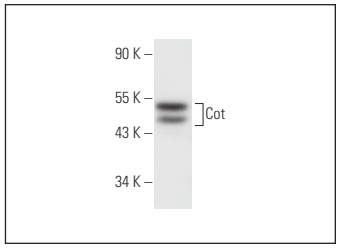
Molecular Weight of Cot: 52/58 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or AML-193 whole cell lysate: sc-364182.

DATA



Cot (H-7): sc-373677. Western blot analysis of Cot expression in Jurkat (**A**), NIH/3T3 (**B**) and RAW 264.7 (**C**) whole cell lysates.



Cot (H-7): sc-373677. Western blot analysis of Cot expression in AML-193 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Roget, K., et al. 2012. IκB kinase 2 regulates TPL-2 activation of extracellular signal-regulated kinases 1 and 2 by direct phosphorylation of TPL-2 serine 400. Mol. Cell. Biol. 32: 4684-4690.
2. Sun, B., et al. 2014. Modeling tandem AAG8-MEK inhibition in melanoma cells. Cancer Med. 3: 710-718.
3. Pattison, M.J., et al. 2016. TLR and TNF-R1 activation of the MKK3/MKK6-p38α axis in macrophages is mediated by TPL-2 kinase. Biochem. J. 473: 2845-2861.
4. Wang, Y., et al. 2018. TPL2 is a key regulator of intestinal inflammation in clostridium difficile infection. Infect. Immun. 86: e00095-18.
5. Fearnley, G.W., et al. 2019. Tpl2 is required for VEGF-A-stimulated signal transduction and endothelial cell function. Biol. Open 8: bio034215.
6. Bansod, S., et al. 2024. The TRIM4 E3 ubiquitin ligase degrades TPL2 and is modulated by oncogenic KRAS. Cell Rep. 43: 114667.

RESEARCH USE

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