

Cot (M-20): sc-720

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.

CHROMOSOMAL LOCATION

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

SOURCE

Cot (M-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Cot of mouse origin.

PRODUCT

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

Cot (M-20) is available conjugated to agarose (sc-720 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-720 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

Blocking peptide available for competition studies, sc-720 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cot (M-20) is recommended for detection of Cot of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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).

Cot (M-20) is also recommended for detection of Cot in additional species, including equine, canine, bovine, porcine and avian.

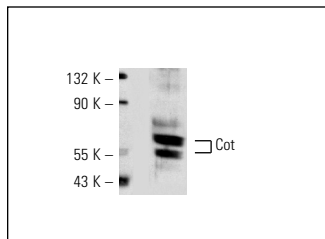
Suitable for use as control antibody for Cot siRNA (h): sc-35095, Cot siRNA (m): sc-35096, Cot shRNA Plasmid (h): sc-35095-SH, Cot shRNA Plasmid (m): sc-35096-SH, Cot shRNA (h) Lentiviral Particles: sc-35095-V and Cot shRNA (m) Lentiviral Particles: sc-35096-V.

Molecular Weight of Cot: 52/58 kDa.

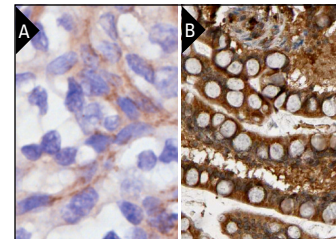
STORAGE

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

DATA



Cot (M-20): sc-720. Western blot analysis of Cot isoform expression in AML-193 whole cell lysate.



Cot (M-20): sc-720. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Heissmeyer, V., et al. 2001. Shared pathways of IκB kinase-induced SCF (βTrCP)-mediated ubiquitination and degradation for the NFκB precursor p105 and IκB-α. *Mol. Cell. Biol.* 21: 1024-1035.
- Cismasiu, V.B., et al. 2009. BCL11B enhances TCR/CD28-triggered NFκB activation through up-regulation of Cot kinase gene expression in T-lymphocytes. *Biochem. J.* 417: 457-466.
- Fávaro, W.J. and Cagnon, V.H. 2010. Effect of combined hormonal and Insulin therapy on the steroid hormone receptors and growth factors signalling in diabetic mice prostate. *Int. J. Exp. Pathol.* 91: 537-545.
- Montico, F., et al. 2010. Alcoholism and coagulating gland: androgen and Insulin like growth factor-1 receptor features. *Tissue Cell* 42: 203-210.
- Kiryakova, S., et al. 2010. Recovery of whisking function promoted by manual stimulation of the vibrissal muscles after facial nerve injury requires Insulin-like growth factor 1 (IGF-1). *Exp. Neurol.* 222: 226-234.
- Pinto, L.C., et al. 2010. Proliferative, structural and molecular features of the Mdx mouse prostate. *Int. J. Exp. Pathol.* 91: 408-419.
- Jeong, J.H., et al. 2011. TPL2/COT/MAP3K8 (TPL2) activation promotes androgen depletion-independent (ADI) prostate cancer growth. *PLoS ONE* 6: e16205.

RESEARCH USE

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



Try **Cot (H-7): sc-373677**, our highly recommended monoclonal alternative to Cot (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Cot (H-7): sc-373677**.