

COP1 (R-18): sc-101227

BACKGROUND

COP1 (Constitutive photomorphogenesis protein 1), also designated RFWD2 (ring finger and WD repeat domain 2) or RNF200 (ring finger protein 200), is an E3 ubiquitin ligase protein that mediates ubiquitination and degradation of target proteins such as c-Jun and p53. It is a component of the DCX DET1-COP1 ubiquitin ligase complex which consists of RBX1, DET1, DDB1, CUL4A and COP1. Localizing to the cytoplasm and to the nucleus, COP1 is primarily expressed in testis, placenta, heart and skeletal muscle. COP1 is a potent inhibitor of p53-dependent transcription and apoptosis but, when phosphorylated by Atm (ataxia telangiectasia mutated) in response to DNA damage, the COP1-p53 complex is disrupted and p53 is allowed to exert its pro-apoptotic properties. In ovarian and breast cancers, COP1 is overexpressed, suggesting a role for COP1 in tumorigenesis.

REFERENCES

- Dornan, D., et al. 2004. COP1, the negative regulator of p53, is overexpressed in breast and ovarian adenocarcinomas. *Cancer Res.* 64: 7226-7230.
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- Faure, J., et al. 2004. ARF1 regulates Nef-induced CD4 degradation. *Curr. Biol.* 14: 1056-1064.
- Feng, S., et al. 2004. Arabidopsis CAND1, an unmodified CUL1-interacting protein, is involved in multiple developmental pathways controlled by ubiquitin/proteasome-mediated protein degradation. *Plant Cell* 16: 1870-1882.
- McMahon, H.T., et al. 2004. COP and Clathrin-coated vesicle budding: different pathways, common approaches. *Curr. Opin. Cell. Biol.* 16: 379-391.
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- Yi, C., et al. 2005. Major vault protein, in concert with constitutively photomorphogenic 1, negatively regulates c-Jun-mediated activator protein 1 transcription in mammalian cells. *Cancer Res.* 65: 5835-5840.
- Qi, L., et al. 2006. TRB3 links the E3 ubiquitin ligase COP1 to lipid metabolism. *Science* 312: 1763-1766.

CHROMOSOMAL LOCATION

Genetic locus: RFWD2 (human) mapping to 1q25.1; Rfwd2 (mouse) mapping to 1 H1.

STORAGE

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

PROTOCOLS

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

SOURCE

COP1 (R-18) is a mouse monoclonal antibody raised against recombinant COP1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COP1 (R-18) is recommended for detection of COP1 of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for COP1 siRNA (h): sc-45541, COP1 siRNA (m): sc-45542, COP1 shRNA Plasmid (h): sc-45541-SH, COP1 shRNA Plasmid (m): sc-45542-SH, COP1 shRNA (h) Lentiviral Particles: sc-45541-V and COP1 shRNA (m) Lentiviral Particles: sc-45542-V.

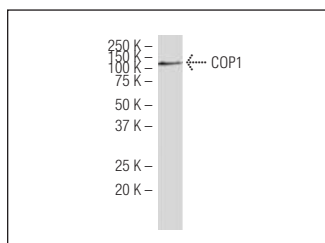
Molecular Weight of COP1: 90 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



COP1 (R-18): sc-101227. Western blot analysis of COP1 expression in NIH/3T3 whole cell lysate.



COP1 (R-18): sc-101227. Immunofluorescence staining of paraformaldehyde-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization.

RESEARCH USE

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