

p-Op18 (Ser 16)-R: sc-12948-R

BACKGROUND

Oncoprotein 18 (Op18) is a regulator of microtubule (MT) dynamics. Op18 is a target for both cell cycle and cell surface receptor-coupled kinase systems, and phosphorylation of Op18 on specific combinations of amino acid residues has been shown to switch off MT-destabilizing activity of Op18. Induced expression of the catalytic subunit of cAMP-dependent protein kinase (PKA) results in a dramatic increase in cellular MT polymer content concomitant with phosphorylation and partial degradation of Op18. Phosphorylation of Op18 on two specific sites, Serine 16 and Serine 63, is necessary and sufficient for PKA to switch off Op18 activity in intact cells. PKA phosphorylation down-regulates the MT-destabilizing activity of Op18, which in turn promotes increased tubulin polymerization. Op18 has the potential to regulate the MT system in response to external signals such as cAMP-linked agonists.

CHROMOSOMAL LOCATION

Genetic locus: STMN1 (human) mapping to 1p36.11; Stmn1 (mouse) mapping to 4 D3.

SOURCE

p-Op18 (Ser 16)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 16 phosphorylated Op18 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12948 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-Op18 (Ser 16)-R is recommended for detection of Ser 16 phosphorylated Op18 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Op18 (Ser 16)-R is also recommended for detection of correspondingly phosphorylated Op18 in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for Op18 siRNA (h): sc-36127, Op18 siRNA (m): sc-36128, Op18 shRNA Plasmid (h): sc-36127-SH, Op18 shRNA Plasmid (m): sc-36128-SH, Op18 shRNA (h) Lentiviral Particles: sc-36127-V and Op18 shRNA (m) Lentiviral Particles: sc-36128-V.

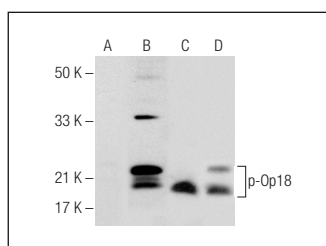
Molecular Weight of p-Op18: 19 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of Op18 phosphorylation in untreated (**A, C**) and activator cocktail (sc-362324) treated (**B, D**) Jurkat whole cell lysates. Antibodies tested include p-Op18 (Ser 16)-R: sc-12948-R (**A, B**) and Op18 (A-4): sc-48362 (**C, D**).

SELECT PRODUCT CITATIONS

- Niethammer, P., et al. 2004. Stathmin-tubulin interaction gradients in motile and mitotic cells. *Science* 303: 1862-1866.
- Tamura, K., et al. 2006. Expression of stathmin in human uterus and decidualizing endometrial stromal cells. *Reproduction* 132: 625-636.
- Ohkawa, N., et al. 2007. The microtubule destabilizer stathmin mediates the development of dendritic arbors in neuronal cells. *J. Cell Sci.* 120: 1447-1456.
- Tamura, K., et al. 2007. Involvement of stathmin in proliferation and differentiation of immortalized human endometrial stromal cells. *J. Reprod. Dev.* 53: 525-533.
- Cova, E., et al. 2010. G93A SOD1 alters cell cycle in a cellular model of amyotrophic lateral sclerosis. *Cell. Signal.* 22: 1477-1484.
- Machado-Neto, J.A., et al. 2015. ANKHD1 silencing inhibits Stathmin 1 activity, cell proliferation and migration of leukemia cells. *Biochim. Biophys. Acta* 1853: 583-593.

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.