SANTA CRUZ BIOTECHNOLOGY, INC.

Op18 (A-4): sc-48362

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Op18 (for oncoprotein 18, also designated stathmin, prosolin or metablastin) is a conserved, Tubulin-associated, intracellular phosphoprotein. Many different phosphorylated forms of Op18 are observed, and it is expressed as two different isoforms. Op18 is considered a critical regulator of microtubulin dynamics and is downregulated by p53. It serves as a transducing protein, via phophorylation, for a variety of cell signaling pathways and is involved in both mitosis and differentiation. Op18 is present in many cancers, including breast carcinomas, and is highly expressed in acute leukemias of different subtypes.

REFERENCES

1. Beretta, L., et al. 1989. Identification of two distinct isoforms of stathmin and characterization of their respective phosphorylated forms. J. Biol. Chem. 264: 9932-9938.
2. Sobel, A. 1991. Stathmin: a relay phosphoprotein for multiple signal transduction. Trends Biochem. Sci. 16: 301-315.

CHROMOSOMAL LOCATION

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

SOURCE

Op18 (A-4) is a mouse monoclonal antibody raised against amino acids 1-149 of Op18 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Op18 (A-4) is available conjugated to agarose (sc-48362 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48362 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48362 PE), fluorescein (sc-48362 FITC), Alexa Fluor® 488 (sc-48362 AF488), Alexa Fluor® 546 (sc-48362 AF546), Alexa Fluor® 594 (sc-48362 AF594) or Alexa Fluor® 647 (sc-48362 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48362 AF680) or Alexa Fluor® 790 (sc-48362 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Op18 (A-4) is recommended for detection of Op18 and other stathmin family members including stathmin-like protein RB3 and SCG10-like protein 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), 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).

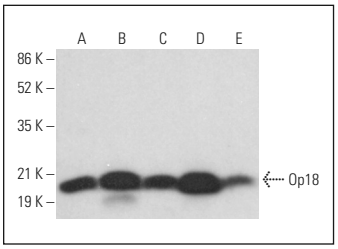
Molecular Weight of Op18: 19 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or MDA-MB-231 cell lysate: sc-2232.

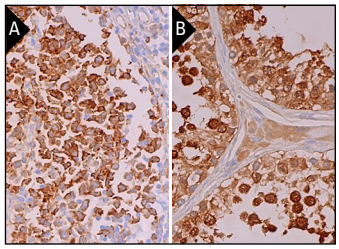
STORAGE

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

DATA



Op18 (A-4): sc-48362. Western blot analysis of Op18 expression in K-562 (**A**), Jurkat (**B**), MDA-MB-231 (**C**), CCRF-CEM (**D**) and HT-29 (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Op18 (A-4): sc-48362. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic and membrane staining of cells in germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts (**B**).

SELECT PRODUCT CITATIONS

1. Chen, J., et al. 2012. Stathmin 1 is a potential novel oncogene in melanoma. Oncogene 32: 1330-1337.
2. Hemdan, T., et al. 2014. The prognostic value and therapeutic target role of stathmin-1 in urinary bladder cancer. Br. J. Cancer 111: 1180-1187.
3. Wang, L., et al. 2016. Proteomic signatures of thymomas. PLoS ONE 11: e0166494.
4. Watanabe, A., et al. 2017. Stathmin 1 promotes the proliferation and malignant transformation of pancreatic intraductal papillary mucinous neoplasms. Oncol. Lett. 13: 1783-1788.
5. Choi, G.E., et al. 2018. Glucocorticoid-mediated ER-mitochondria contacts reduce AMPA receptor and mitochondria trafficking into cell terminus via microtubule destabilization. Cell Death Dis. 9: 1137.
6. Janacova, L., et al. 2020. SWATH-MS analysis of FFPE tissues identifies stathmin as a potential marker of endometrial cancer in patients exposed to tamoxifen. J. Proteome Res. 19: 2617-2630.
7. Hu, Z., et al. 2020. The repertoire of serous ovarian cancer non-genetic heterogeneity revealed by single-cell sequencing of normal fallopian tube epithelial cells. Cancer Cell 37: 226-242.e7.
8. Zhou, Y., et al. 2022. Molecular landscapes of human hippocampal immature neurons across lifespan. Nature 607: 527-533.
9. Cang, Z., et al. 2023. Screening cell-cell communication in spatial transcriptomics via collective optimal transport. Nat. Methods. E-published.

RESEARCH USE

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