SANTA CRUZ BIOTECHNOLOGY, INC.

SPOP (B-8): sc-377206

BACKGROUND

SPOP (speckle-type POZ protein), also known as TEF2, HIB homolog 1 or Roadkill homolog 1, is a member of the Tdpoz family containing one N-terminal MATH (Meprin and TRAF homology) domain and one C-terminal BTB/POZ domain. SPOP can exist as a homodimer and is expressed in a variety of tissues localizing to the nucleus. Through an interaction with CUL-3, SPOP is involved in ubiquitinylation and protein degradation. SPOP specifically interacts with CUL-3 via its BTB/POZ domain and recruits substrates to the CUL-3-based ubiquitin ligase via its MATH domain. Substrates recruited by SPOP and targeted for ubiquitylation via the CUL-3/SPOP complex include PDX-1, Bmi-1, MacroH2A, PIPK II β and Daxx. These substrates are subsequently degraded by the proteasome. In addition, SPOP itself becomes ubiquitylated by the CUL-3-based ubiquitin ligase and is targeted for proteasomal degradation. SPOPL (speckle-type POZ protein-like), also known as HIB homolog 2 or Roadkill homolog 2, is a 392 amino acid nuclear protein that may be involved in ubiquitination and proteasomal degradation processes. SPOP and SPOPL share significant amino acid sequence homology.

REFERENCES

1. Nagai, Y., et al. 1997. Identification of a novel nuclear speckle-type protein, SPOP. FEBS Lett. 418: 23-26.
2. Zapata, J.M., et al. 2001. A diverse family of proteins containing tumor necrosis factor receptor-associated factor domains. J. Biol. Chem. 276: 24242-24252.

CHROMOSOMAL LOCATION

Genetic locus: SPOP (human) mapping to 17q21.33; Spop (mouse) mapping to 11 D.

SOURCE

SPOP (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 351-374 at the C-terminus of SPOP 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.

SPOP (B-8) is available conjugated to agarose (sc-377206 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377206 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377206 PE), fluorescein (sc-377206 FITC), Alexa Fluor® 488 (sc-377206 AF488), Alexa Fluor® 546 (sc-377206 AF546), Alexa Fluor® 594 (sc-377206 AF594) or Alexa Fluor® 647 (sc-377206 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377206 AF680) or Alexa Fluor® 790 (sc-377206 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377206 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

SPOP (B-8) is recommended for detection of SPOP 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); may cross-react with SPOPL.

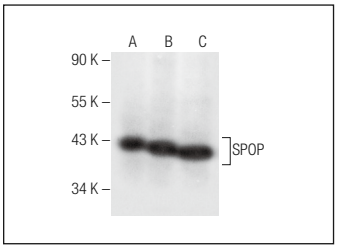
SPOP (B-8) is also recommended for detection of SPOP in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SPOP siRNA (h): sc-63056, SPOP siRNA (m): sc-63057, SPOP shRNA Plasmid (h): sc-63056-SH, SPOP shRNA Plasmid (m): sc-63057-SH, SPOP shRNA (h) Lentiviral Particles: sc-63056-V and SPOP shRNA (m) Lentiviral Particles: sc-63057-V.

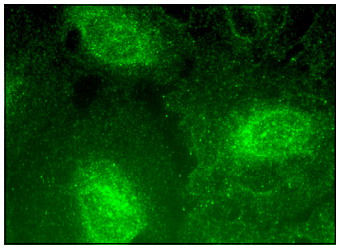
Molecular Weight of SPOP: 42 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, PC-3 cell lysate: sc-2220 or SK-N-MC cell lysate: sc-2237.

DATA



SPOP (B-8): sc-377206. Western blot analysis of SPOP expression in SK-N-MC (**A**), PC-3 (**B**) and MCF7 (**C**) whole cell lysates.



SPOP (B-8): sc-377206. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and membrane localization.

SELECT PRODUCT CITATIONS

1. Klein, S., et al. 2016. The phosphorylation of PDX-1 by protein kinase CK2 is crucial for its stability. Pharmaceuticals 10: 2.
2. Luo, L., et al. 2018. LINC01638 lncRNA activates MTDH-Twist1 signaling by preventing SPOP-mediated c-Myc degradation in triple-negative breast cancer. Oncogene 37: 6166-6179.
3. Nikhil, K., et al. 2020. Molecular interplay between AURKA and SPOP dictates CRPC pathogenesis via androgen receptor. Cancers 12: 3247.
4. Zhu, Y., et al. 2021. CHD1 and SPOP synergistically protect prostate epithelial cells from DNA damage. Prostate 81: 81-88.
5. Zhou, Q., et al. 2022. Neddylation inhibition induces glutamine uptake and metabolism by targeting $CRL3^{SPOP}$ E3 ligase in cancer cells. Nat. Commun. 13: 3034.

STORAGE

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