

# SPOP (K-13): sc-66651

## 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 ubiquitylation 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  $\beta$  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.
3. Takahashi, I., et al. 2002. MacroH2A1.2 binds the nuclear protein SPOP. *Biochim. Biophys. Acta* 1591: 63-68.
4. La, M., et al. 2004. Daxx-mediated transcriptional repression of MMP1 gene is reversed by SPOP. *Biochem. Biophys. Res. Commun.* 320: 760-765.
5. Liu, A., et al. 2004. Identification of PCIF1, a POZ domain protein that inhibits PDX-1 (MODY4) transcriptional activity. *Mol. Cell. Biol.* 24: 4372-4383.
6. Hernández-Muñoz, I., et al. 2005. Stable X chromosome inactivation involves the PRC1 Polycomb complex and requires histone MACROH2A1 and the CULLIN3/SPOP ubiquitin E3 ligase. *Proc. Natl. Acad. Sci. USA* 102: 7635-7640.
7. Zhang, Q., et al. 2006. A hedgehog-induced BTB protein modulates hedgehog signaling by degrading Ci/Gli transcription factor. *Dev. Cell* 10: 719-729.

## CHROMOSOMAL LOCATION

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

## SOURCE

SPOP (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SPOP of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66651 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SPOP (K-13) is recommended for detection of SPOP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (K-13) 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: SK-BR-3 nuclear extract: sc-2134, MCF7 nuclear extract: sc-2149 or SK-N-MC cell lysate: sc-2237.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **SPOP (B-8): sc-377206**, our highly recommended monoclonal alternative to SPOP (K-13). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SPOP (B-8): sc-377206**.