SANTA CRUZ BIOTECHNOLOGY, INC.

53BP1 (D-20): sc-10911

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The Power to Question

BACKGROUND

The p53 binding proteins 53BP1 and 53BP2 (Bbp) bind to the central DNA-binding domain of wild type p53, but do not bind mutant p53. The central DNA-binding domain of p53 is required for site-specific DNA binding and is frequently mutated in malignant tumors. Binding of 53BP1 to the L3 loop of p53 and of 53BP2 to the L2 loop of p53 confirms that the loop is dependent on p53 conformation. Site-specific binding also suggests that 53BP1 and 53BP2 are involved in p53-mediated tumor suppression. 53BP1 was isolated from H258 cells and is expressed in Jurkat cells in both the cytoplasm and the nucleus. The N-terminus of 53BP2 is localized to the cytoplasm, while the C-terminus might be localized in the nucleus. 53BP1 promotes cell proliferation by binding to p202, whereas 53BP2 induces cell death by binding to Bcl2 and NFκB p65.

REFERENCES

1. Iwabuchi, K., et al. 1994. Two cellular proteins that bind to wild-type but not mutant p53. Proc. Natl. Acad. Sci. USA 91: 6098-6102.
2. Gorina, S., et al. 1996. Structure of the p53 tumor suppressor bound to the ankyrin and SH3 domains of 53BP2. Science 274: 1001-1005.
3. Naumovski, L., et al. 1996. The p53-binding protein 53BP2 also interacts with Bcl12 and impedes cell cycle progression at G_2/M. Mol. Cell. Biol. 16: 3884-3892.
4. Bansidhar, D., et al. 1996. p202, an interferon-inducible modulator of transcription, inhibits transcriptional activation by the p53 tumor suppressor protein and a segment from the p53-binding protein 1 that binds to p202 overcomes this inhibition. J. Biol. Chem. 271: 27544-27555.
5. Iwabuchi, K., et al. 1998. Stimulation of p53-mediated transcriptional activation by the p53-binding proteins, 53BP1 and 53BP2. J. Biol. Chem. 273: 26061-26068.
6. Yang, J.P., et al. 1999. NFκB subunit p65 binds to 53BP2 and inhibits cell death induced by 53BP2. Oncogene 18: 5177-5186.

CHROMOSOMAL LOCATION

Genetic locus: TP53BP1 (human) mapping to 15q15.3.

SOURCE

53BP1 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of 53BP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10911 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

53BP1 (D-20) is recommended for detection of 53BP1 of 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).

53BP1 (D-20) is also recommended for detection of 53BP1 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for 53BP1 siRNA (h): sc-37455, 53BP1 shRNA Plasmid (h): sc-37455-SH and 53BP1 shRNA (h) Lentiviral Particles: sc-37455-V.

Molecular Weight (predicted) of 53BP1: 214 kDa.

Molecular Weight (observed) of 53BP1: 245-460 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

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.

SELECT PRODUCT CITATIONS

1. Pizzatti, L., et al. 2006. Altered protein profile in chronic myeloid leukemia chronic phase identified by a comparative proteomic study. Biochim. Biophys. Acta 1764: 929-942.

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.