SANTA CRUZ BIOTECHNOLOGY, INC.

SP-100 (R-20): sc-16332

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The human SP100 gene encodes an autoantigen that co-localizes with PML and NDP52 in distinct nuclear domains, called nuclear dots (NDs) or ND10 nuclear bodies. Papova-, adeno-, and herpesviruses begin their transcription and DNA-replication at NDs, which play a role in autoimmunity, viral infections and in the etiology of acute promyelocytic leukemia. SP-100 is an interferon-inducible protein that has two splice variants. One splice variant contains a highly conserved copy of the DNA-binding high mobility group 1 protein sequence, and thus represents a novel HMG-box protein. This alternatively spliced variant of SP-100 has a unique expression and localization pattern that is distinct from the SP-100 full-length protein. The SP100 protein is covalently modified by the small ubiquitin-related protein SUMO-1. SP-100 contains a functional nuclear localization signal and an ND-targeting region, which overlaps with the SP-100 homodimerization domain. The homodimerization/ND-targeting region is considered a novel protein motif, termed HSR domain. SP-100 is also found to interact with Bright (B cell regulator of IgH transcription), which in lymphoid cells also interacts with LYSP100/SP140, the lymphoid-restricted homolog of SP100.

REFERENCES

1. Grotzinger, T., et al. 1996. The interferon (IFN)-stimulated gene Sp100 promoter contains an IFN-γ activation site and an imperfect IFN-stimulated response element which mediate type I IFN inducbility. J. Biol. Chem. 271: 25253-25260.
2. Weichenhan, D., et al. 1997. Structure and expression of the murine Sp100 nuclear dot gene. Genomics 43: 298-306.
3. Seeler, J.S., et al. 1998. Interaction of SP100 with HP1 proteins: a link between the promyelocytic leukemia-assoicated nuclear biodies and the chromatin compartment. Proc. Natl. Acad. Sci. USA 95: 7316-7321.
4. Guldner, H.H., et al. 1999. Splice variants of the nuclear dot-associated Sp100 protein contain homologies to HMG-1 and a human nuclear phosphoprotein-box motif. J. Cell Sci. 112: 733-747.
5. Sternsdorf, T., et al. 1999. The nuclear dot protein sp100, characterization of domains necessary for dimerization, subcellular localization, and modification by small ubiquitin-like modifiers. J. Biol. Chem. 274: 12555-12566.
6. Bell, P., et al. 2000. Lytic but not latent replication of epstein-barr virus is associated with PML and induces sequential release of nuclear domain 10 proteins. J. Virol. 74: 1800-1810.

CHROMOSOMAL LOCATION

Genetic locus: Sp100 (mouse) mapping to 1 C5.

SOURCE

SP-100 (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SP-100 of mouse origin.

STORAGE

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

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-16332 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SP-100 (R-20) is recommended for detection of SP-100 of mouse and rat 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).

Suitable for use as control antibody for SP-100 siRNA (m): sc-41033, SP-100 shRNA Plasmid (m): sc-41033-SH and SP-100 shRNA (m) Lentiviral Particles: sc-41033-V.

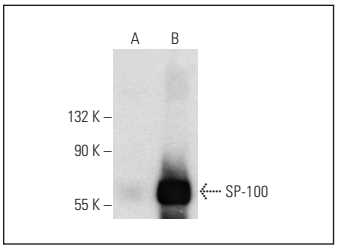
Molecular Weight of SP-100: 53 kDa.

Positive Controls: mouse ovary extract: sc-2404 or SP-100 (m): 293T Lysate: sc-123721.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SP-100 (R-20): sc-16332. Western blot analysis of SP-100 expression in non-transfected: sc-117752 (**A**) and mouse SP-100 transfected: sc-123721 (**B**) 293T whole cell lysates.

RESEARCH USE

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