

SP-100 (1G6): sc-293458

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 SP-100.

REFERENCES

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- Weichenhan, D., et al. 1997. Structure and expression of the murine SP-100 nuclear dot gene. *Genomics* 43: 298-306.
- Seeler, J.S., et al. 1998. Interaction of SP-100 with HP1 proteins: a link between the promyelocytic leukemia-associated nuclear bodies and the chromatin compartment. *Proc. Natl. Acad. Sci. USA* 95: 7316-7321.
- Sternsdorf, T., et al. 1999. The nuclear dot protein SP-100, characterization of domains necessary for dimerization, subcellular localization, and modification by small ubiquitin-like modifiers. *J. Biol. Chem.* 274: 12555-12566.
- Guldner, H.H., et al. 1999. Splice variants of the nuclear dot-associated SP-100 protein contain homologies to HMG-1 and a human nuclear phosphoprotein-box motif. *J. Cell Sci.* 112: 733-747.
- 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.
- Zong, D.T., et al. 2000. Regulation of matrix attachment region-dependent, lymphocyte-restricted transcription through differential localization within promyelocytic leukemia nuclear bodies. *EMBO J.* 19: 4123-4133.

CHROMOSOMAL LOCATION

Genetic locus: SP100 (human) mapping to 2q37.1.

SOURCE

SP-100 (1G6) is a mouse monoclonal antibody raised against amino acids 1-98 representing partial length SP-100 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SP-100 (1G6) is recommended for detection of SP-100 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SP-100 siRNA (h): sc-41032, SP-100 shRNA Plasmid (h): sc-41032-SH and SP-100 shRNA (h) Lentiviral Particles: sc-41032-V.

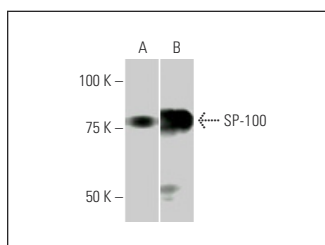
Molecular Weight of SP-100: 53 kDa.

Positive Controls: SP-100 transfected 293T whole cell lysate.

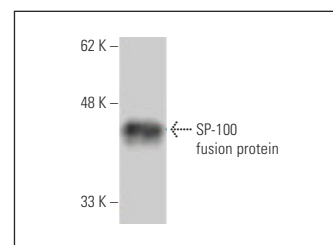
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SP-100 (1G6): sc-293458. Western blot analysis of SP-100 expression in non-transfected (A) and SP-100 transfected (B) 293T whole cell lysates.



SP-100 (1G6): sc-293458. Western blot analysis of human recombinant SP-100 fusion protein.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.