SANTA CRUZ BIOTECHNOLOGY, INC.

Sp2 (H-9): sc-166575

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Sp transcription factor family includes Sp1, Sp2, Sp3 (SPR-2) and Sp4 (SPR-1). Sp transcription factors share similar structures but do not share similar functions. All four proteins contain a highly conserved DNA-binding domain composed of three zinc fingers at the C-terminus. Sp family members bind the consensus sequence GGGGCGGGGC and other closely related sequences which are known as GC boxes. Sp1, Sp3 and Sp4 share a high affinity for GC boxes while Sp2 does not. Sp2 only weakly binds to GT boxes. Sp1, Sp2 and Sp3 are ubiquitously expressed, while Sp4 is abundantly expressed in brain with limited expression in other tissues. Sp1 and Sp3, but not Sp2 or Sp4, interact with E2, a regulatory element for the β4 subunit of neuronal nicotinic acetylcholine receptors. Sp3 is the only Sp member to inhibit Sp1 and Sp4 mediated transcription. The gene encoding human Sp2 maps to chromosome 17q21.32.

REFERENCES

1. Kadonaga, J.T., et al. 1988. Promoter-selective activation of transcription by Sp1. In Cullen, B.R. and Wong-Staal, F., eds. The Control of Human Retrovirus Gene Expression. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press, 239-250.
2. Kingsley, C. and Winoto, A. 1992. Cloning of GT box-binding proteins: a novel Sp1 multigene family regulating T cell receptor gene expression. Mol. Cell. Biol. 12: 4251-4261.
3. Hagen, G., et al. 1992. Cloning by recognition site screening of two novel GT box binding proteins: a family of Sp1 related genes. Nucleic Acids Res. 20: 5519-5525.
4. Hagen, G., et al. 1994. Sp1-mediated transcriptional activation is repressed by Sp3. EMBO J. 13: 3843-3851.
5. Hagen, G., et al. 1995. Functional analyses of the transcription factor Sp4 reveal properties distinct from Sp1 and Sp3. J. Biol. Chem. 270: 24989-24994.

CHROMOSOMAL LOCATION

Genetic locus: SP2 (human) mapping to 17q21.32; Sp2 (mouse) mapping to 11 D.

SOURCE

Sp2 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 115-150 near the N-terminus of Sp2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-166575 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-166575 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Sp2 (H-9) is recommended for detection of Sp2 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).

Suitable for use as control antibody for Sp2 siRNA (h): sc-29489, Sp2 siRNA (m): sc-36543, Sp2 shRNA Plasmid (h): sc-29489-SH, Sp2 shRNA Plasmid (m): sc-36543-SH, Sp2 shRNA (h) Lentiviral Particles: sc-29489-V and Sp2 shRNA (m) Lentiviral Particles: sc-36543-V.

Sp2 (H-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

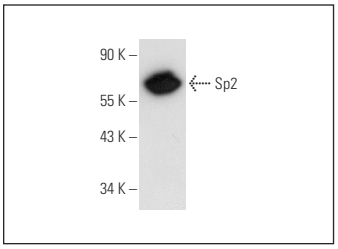
Molecular Weight of Sp2: 80 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

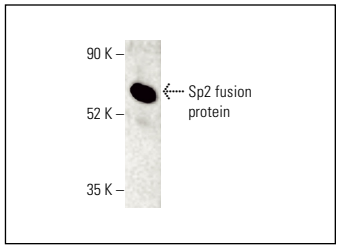
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Sp2 (H-9): sc-166575. Western blot analysis of Sp2 expression in K-562 whole cell lysate.



Sp2 (H-9): sc-166575. Western blot analysis of human recombinant Sp2 fusion protein.

SELECT PRODUCT CITATIONS

1. Suske, G. 2017. NF-Y and Sp transcription factors—new insights in a long-standing liaison. Biochim. Biophys. Acta Gene Regul. Mech. 1860: 590-597.

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.