SANTA CRUZ BIOTECHNOLOGY, INC.

Sp3 (H-225): sc-13018

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. Multiple isoforms of Sp3 exist due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: SP3 (human) mapping to 2q31.1; Sp3 (mouse) mapping to 2 C3.

SOURCE

Sp3 (H-225) is a rabbit polyclonal antibody raised against amino acids 126-350 of Sp3 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13018 X, 200 µg/0.1 ml.

APPLICATIONS

Sp3 (H-225) is recommended for detection of Sp3 of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Sp3 (H-225) is also recommended for detection of Sp3 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Sp3 siRNA (h): sc-29490, Sp3 siRNA (m): sc-36544, Sp3 shRNA Plasmid (h): sc-29490-SH, Sp3 shRNA Plasmid (m): sc-36544-SH, Sp3 shRNA (h) Lentiviral Particles: sc-29490-V and Sp3 shRNA (m) Lentiviral Particles: sc-36544-V.

Sp3 (H-225) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

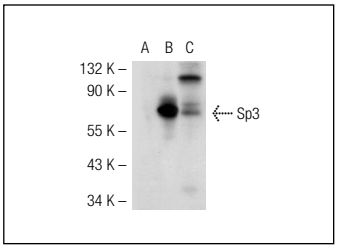
Molecular Weight of Sp3 isoforms: 78/100/115 kDa.

Positive Controls: Sp3 (m): 293T Lysate: sc-127572, Jurkat whole cell lysate: sc-2204 or HeLa nuclear extract: sc-2120.

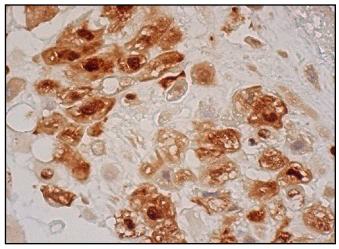
STORAGE

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

DATA



Sp3 (H-225): sc-13018. Western blot analysis of Sp3 expression in non-transfected: sc-117752 (**A**) and mouse Sp3 transfected: sc-127572 (**B**) 293T whole cell lysates and HeLa nuclear extract (**C**).



Sp3 (H-225): sc-13018. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear and cytoplasmic staining of decidual cells.

SELECT PRODUCT CITATIONS

1. Bakovic, M., et al. 2003. Oncogenic Ha-Ras transformation modulates the transcription of the CTP:phosphocholine cytidylyltransferase α gene via p42/44MAPK and transcription factor Sp3. J. Biol. Chem. 278: 14753-14761.
2. Irvine, S.A., et al. 2005. A critical role for the Sp1-binding sites in the transforming growth factor-β-mediated inhibition of lipoprotein lipase gene expression in macrophages. Nucleic Acids Res. 33: 1423-1434.
3. Boylan, M.O., et al. 2006. Sp1/Sp3 binding is associated with cell-specific expression of the glucose-dependent insulinotropic polypeptide receptor gene. Am. J. Physiol. Endocrinol. Metab. 290: E1287-E1295.
4. Monslow, J., et al. 2006. Sp1 and Sp3 mediate constitutive transcription of the human hyaluronan synthase 2 gene. J. Biol. Chem. 281: 18043-18050.
5. Itoh, Y., et al. 2007. 17β-Estradiol induces IL-1α gene expression in rheumatoid fibroblast-like synovial cells through estrogen receptor α (ERα) and augmentation of transcriptional activity of Sp1 by dissociating histone deacetylase 2 from ERα. J. Immunol. 178: 3059-3066.
6. Vernimmen, D., et al. 2007. Long-range chromosomal interactions regulate the timing of the transition between poised and active gene expression. EMBO J. 26: 2041-2051.
7. Van Loo, P.F., et al. 2007. Transcription factor Sp3 knockout mice display serious cardiac malformations. Mol. Cell. Biol. 27: 8571-8582.

RESEARCH USE

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