

Sp3 (D-20): sc-644



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 GGGCGGGGC 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 β 4 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 (D-20) is available as either rabbit (sc-644) or goat (sc-644-G) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of Sp3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-644 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-644 X, 200 μ g/0.1 ml; and as fluorescein conjugate for immunofluorescence, sc-644 FITC, 200 μ g/1 ml; and as rhodamine conjugate for cytometry flow or immunofluorescence, sc-644 TRITC, 200 μ g/1 ml.

APPLICATIONS

Sp3 (D-20) 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 μ g per 100-500 μ g 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).

Sp3 (D-20) is also recommended for detection of Sp3 in additional species, including equine, 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.

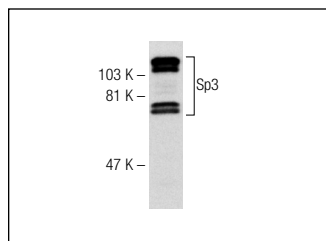
Sp3 (D-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

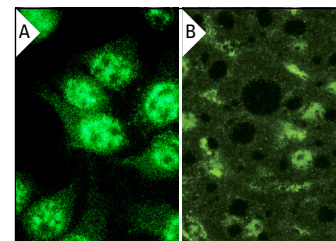
STORAGE

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

DATA



Sp3 (D-20): sc-644. Western blot analysis of Sp3 expression in KNRK nuclear extract.



Sp3 (D-20): sc-644. Nuclear immunofluorescence staining of methanol-fixed HeLa cells (A) and normal mouse liver frozen section (B) showing nuclear staining.

SELECT PRODUCT CITATIONS

- Suzuki, M., et al. 1998. Induction of Sp1 in differentiating human embryonal carcinoma cells triggers transcription of the Fibronectin gene. *Mol. Cell. Biol.* 18: 310-320.
- Milagre, I., et al. 2012. Neuronal differentiation alters the ratio of Sp transcription factors recruited to the CYP46A1 promoter. *J. Neurochem.* 120: 220-229.
- Nunes, M.J., et al. 2012. Okadaic acid inhibits the trichostatin A-mediated increase of human CYP46A1 neuronal expression in a ERK1/2-Sp3-dependent pathway. *J. Lipid Res.* 53: 1910-1919.
- García-Ruiz, I., et al. 2012. Sp1 and Sp3 transcription factors mediate leptin-induced collagen α 1 gene expression in primary culture of male rat hepatic stellate cells. *Endocrinology* 153: 5845-5856.
- Cheng, H.T. and Hung, W.C. 2012. Inhibition of lymphangiogenic factor VEGF-C expression and production by the histone deacetylase inhibitor suberoylanilide hydroxamic acid in breast cancer cells. *Oncol. Rep.* 29: 1238-1244.
- Oleaga, C., et al. 2012. Identification of novel Sp1 targets involved in proliferation and cancer by functional genomics. *Biochem. Pharmacol.* 84: 1581-1591.
- Oleaga, C., et al. 2013. Cocoa flavanol metabolites activate HNF-3 β , Sp1, and NFY-mediated transcription of apolipoprotein AI in human cells. *Mol. Nutr. Food Res.* 57: 986-995.

RESEARCH USE

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



Try **Sp3 (G-7): sc-365220** or **Sp3 (F-7): sc-28305**, our highly recommended monoclonal alternatives to Sp3 (D-20).