

Sp2 (K-20): sc-643

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 $\beta 4$ subunit of neuronal nicotinic acetylcholine receptors. Sp3 is the only Sp member to inhibit Sp1 and Sp4 mediated transcription. The gene3 encoding human Sp2 maps to chromosome 17q21.32.

CHROMOSOMAL LOCATION

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

SOURCE

Sp2 (K-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Sp2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-643 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-643 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sp2 (K-20) is recommended for detection of Sp2 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), 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).

Sp2 (K-20) is also recommended for detection of Sp2 in additional species, including equine, canine, bovine, porcine and avian.

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

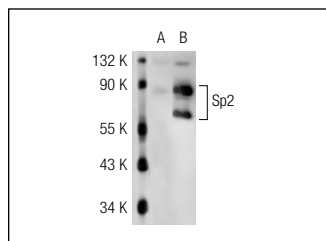
Molecular Weight of Sp2: 80 kDa.

Positive Controls: Sp2 (h): 293T Lysate: sc-113315, Jurkat whole cell lysate: sc-2204 or K-562 nuclear extract: sc-2130.

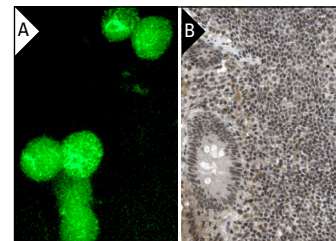
STORAGE

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

DATA



Sp2 (K-20): sc-643. Western blot analysis of Sp2 expression in non-transfected: sc-117752 (A) and human Sp2 transfected: sc-113315 (B) 293T whole cell lysates.



Sp2 (K-20): sc-643. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear staining of glandular and lymphoid cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Bigger, C.B., et al. 1997. Sp1 and Sp3 regulate expression of the neuronal nicotinic acetylcholine receptor $\beta 4$ subunit gene. *J. Biol. Chem.* 272: 25976-25982.
2. Ishimaru, N., et al. 2006. Regulation of neurotrophin-3 gene transcription by Sp3 and Sp4 in neurons. *J. Neurochem.* 100: 520-531.
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. Roger, T., et al. 2007. Regulation of constitutive and microbial pathogen-induced human macrophage migration inhibitory factor (MIF) gene expression. *Eur. J. Immunol.* 37: 3509-3521.
5. Zheng, Y., et al. 2009. Prostaglandin E2 stimulates human lung carcinoma cell growth through induction of integrin-linked kinase: the involvement of EP4 and Sp1. *Cancer Res.* 69: 896-904.
6. Vire, B., et al. 2009. Anti-leukemia activity of MS-275 histone deacetylase inhibitor implicates 4-1BBL/4-1BB immunomodulatory functions. *PLoS ONE* 4: e7085.
7. Vinotini, G., et al. 2011. Mitochondria-mediated apoptosis in patients with adenocarcinoma of the breast: Correlation with histological grade and menopausal status. *Breast* 20: 86-92.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **Sp2 (A-8): sc-17814** or **Sp2 (G-7): sc-55487**, our highly recommended monoclonal alternatives to Sp2 (K-20).