

# Sp2 (G-7): sc-55487

## 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 b4 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.

## REFERENCES

- Kadonaga, J.T., et al. 1988. Promoter-selective activation of transcription by Sp1. The control of human retrovirus gene expression. Franza, B.R. Jr., Cullen, B.R. and Wong-Staal, F., eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY: 239-250.
- 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.
- Kingsley, C., et al. 1992. Cloning of GT box-binding proteins: a novel Sp1 multigene family regulating T-cell receptor gene expression. *Mol. Cell Biol.* 12: 4251-4261.
- Hagen, G., et al. 1994. Sp1-mediated transcriptional activation is repressed by Sp3. *EMBO J.* 13: 3843-3851.
- 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.
- Bigger, C.B., et al. 1997. Sp1 and Sp3 regulate expression of the neuronal nicotinic acetylcholine receptor beta4 subunit gene. *J. Biol. Chem.* 272: 25976-25982.

## CHROMOSOMAL LOCATION

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

## SOURCE

Sp2 (G-7) is a mouse monoclonal antibody raised against amino acids 154-435 of Sp2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

Sp2 (G-7) 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.

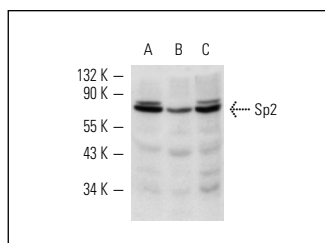
Molecular Weight of Sp2: 80 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, NIH/3T3 nuclear extract: sc-2138 or Jurkat nuclear extract: sc-2132.

## 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, TBS Blotto A Blocking Reagent: sc-2333 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 (G-7): sc-55487. Western blot analysis of Sp2 expression in KNRK (A), NIH/3T3 (B) and Jurkat (C) nuclear extracts.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.