

# Sp1 (1C6): sc-420

## BACKGROUND

Sp1 is a sequence-specific transcription factor that recognizes GGGCGGGGC and closely related sequences, which are often referred to as GC boxes. Sp1 was initially identified as a HeLa cell-derived factor that selectively activates *in vitro* transcription from the SV40 promoter and binds to the multiple GC boxes in the 21 bp repeated elements in SV40. The sequence specificity of DNA binding is conferred by Zn (II) fingers, whereas a different region of Sp1 appears to regulate the affinity of DNA binding. Sp1 belongs to a subgroup of transcription factors that are phosphorylated upon binding to promoter sequences. Evidence suggests that the early growth response gene, Erg-1 (also known as Zif268 or NGF1-A), may downregulate certain mammalian gene promoters by competing with Sp1 for binding to an overlapping binding motif. The gene encoding human Sp1 maps to chromosome 12q13.13.

## REFERENCES

1. Dynan, W.S., et al. 1983. Isolation of transcription factors that discriminate between different promoters recognized by RNA polymerase II. *Cell* 32: 669-680.
2. Dynan, W.S., et al. 1983. The promoter-specific transcription factor Sp1 binds to upstream sequences in the SV40 early promoter. *Cell* 35: 79-87.

## CHROMOSOMAL LOCATION

Genetic locus: SP1 (human) mapping to 12q13.13; Sp1 (mouse) mapping to 15 F3.

## SOURCE

Sp1 (1C6) is a mouse monoclonal antibody raised against amino acids 609-627 mapping to an internal domain of Sp1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-420 X, 200 µg/0.1 ml.

Sp1 (1C6) is available conjugated to agarose (sc-420 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-420 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-420 PE), fluorescein (sc-420 FITC), Alexa Fluor® 488 (sc-420 AF488), Alexa Fluor® 546 (sc-420 AF546), Alexa Fluor® 594 (sc-420 AF594) or Alexa Fluor® 647 (sc-420 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-420 AF680) or Alexa Fluor® 790 (sc-420 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-420 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

Sp1 (1C6) is recommended for detection of Sp1 p95 and p106 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); not recommended for immunoprecipitation.

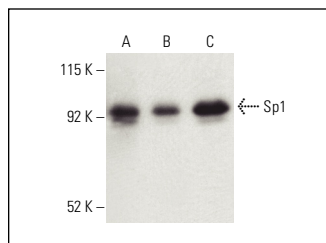
Suitable for use as control antibody for Sp1 siRNA (h): sc-29487, Sp1 siRNA (m): sc-29488, Sp1 siRNA (r): sc-61895, Sp1 shRNA Plasmid (h): sc-29487-SH, Sp1 shRNA Plasmid (m): sc-29488-SH, Sp1 shRNA Plasmid (r): sc-61895-SH, Sp1 shRNA (h) Lentiviral Particles: sc-29487-V, Sp1 shRNA (m) Lentiviral Particles: sc-29488-V and Sp1 shRNA (r) Lentiviral Particles: sc-61895-V.

Sp1 (1C6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

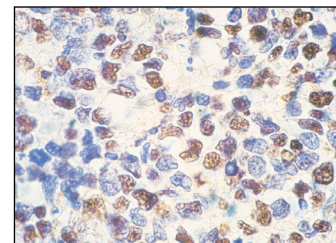
Molecular Weight of Sp1: 106 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MCF7 nuclear extract: sc-2149 or K-562 nuclear extract: sc-2130.

## DATA



Sp1 (1C6): sc-420. Western blot analysis of Sp1 expression in K-562 (A), HeLa (B) and MCF7 (C) nuclear extracts.



Sp1 (1C6): sc-420. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil showing nuclear staining of selected cells.

## SELECT PRODUCT CITATIONS

1. Larsson, S.H., et al. 1995. Subnuclear localization of WT1 in splicing or transcription factor domains is regulated by alternative splicing. *Cell* 81: 391-401.
2. Xu, H., et al. 2019. MicroRNA-375 inhibits esophageal squamous cell carcinoma proliferation through direct targeting of Sp1. *Exp. Ther. Med.* 17: 1509-1516.
3. Peng, F., et al. 2020. The transcription factor Sp1 modulates RNA polymerase gene transcription by controlling BRF1 and GTF3C2 expression in human cells. *J. Biol. Chem.* 295: 4617-4630.
4. Kang, D.W., et al. 2021. Phospholipase D1 is upregulated by vorinostat and confers resistance to vorinostat in glioblastoma. *J. Cell. Physiol.* 236: 549-560.

## RESEARCH USE

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