

Sp1 (PEP 2): sc-59

BACKGROUND

Sp1 is a sequence-specific transcription factor that recognizes GGGGCGGGGC 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.

CHROMOSOMAL LOCATION

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

SOURCE

Sp1 (PEP 2) is available as either rabbit (sc-59) or goat (sc-59-G) affinity purified polyclonal antibody raised against amino acids 528-546 mapping within an internal region of Sp1 of rat origin.

PRODUCT

Each vial contains either 100 µg (sc-59) or 200 µg (sc-59-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-59 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA). Available as agarose conjugate for immunoprecipitation, sc-59 AC, 500 µg/0.25 ml agarose in 1 ml; as fluorescein conjugate for immunofluorescence, sc-59 FITC, 200 µg/1 ml; and as rhodamine conjugate for immunofluorescence, sc-59 TRITC, 200 µg/1 ml; and as Trans Cruz reagent for Gel Supershift and ChIP applications, sc-59 X, 200 µg/0.1 ml. Available as Alexa Fluor[®] 405 (sc-59 AF405), Alexa Fluor[®] 488 (sc-59 AF488) or Alexa Fluor[®] 647 (sc-59 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

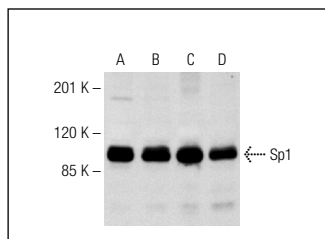
Sp1 (PEP 2) is recommended for detection of both p95 and p106 Sp1 proteins of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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). Sp1 (PEP 2) is also recommended for detection of both p95 and p106 Sp1 proteins in additional species, including canine, bovine, porcine and avian.

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

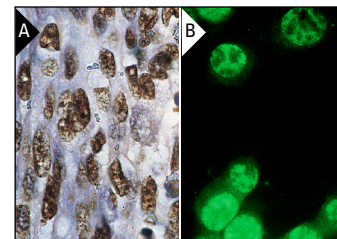
STORAGE

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

DATA



Sp1 (PEP 2)-G: sc-59-G. Western blot analysis of Sp1 expression in K-562 (A) and Jurkat (C) nuclear extracts and K-562 (B) and Jurkat (D) whole cell lysates.



Sp1 (PEP 2)-G: sc-59-G. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing nuclear localization (A). Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization (B).

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. Chiang, C.M., et al. 1995. Cloning of an intrinsic human TFIID subunit that interacts with multiple transcriptional activators. *Science* 267: 531-536.
3. Milagre, I., et al. 2012. Neuronal differentiation alters the ratio of Sp transcription factors recruited to the CYP46A1 promoter. *J. Neurochem.* 120: 220-229.
4. Onori, A., et al. 2013. UtrouUp is a novel six zinc finger artificial transcription factor that recognises 18 base pairs of the utrophin promoter and efficiently drives utrophin upregulation. *BMC Mol. Biol.* 14: 3.
5. Orioli, D., et al. 2013. XPD mutations in trichothiodystrophy hamper collagen VI expression and reveal a role of TFIH in transcription derepression. *Hum. Mol. Genet.* 22: 1061-1073.
6. Skrypek, N., et al. 2013. The MUC4 mucin mediates gemcitabine resistance of human pancreatic cancer cells via the concentrative nucleoside transporter family. *Oncogene* 32: 1714-1723.
7. Oleaga, C., et al. 2013. Cocoa flavanol metabolites activate HNF-3β, 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 **Sp1 (1C6): sc-420** or **Sp1 (E-3): sc-17824**, our highly recommended monoclonal alternatives to Sp1 (PEP 2). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Sp1 (1C6): sc-420**.