

# Sp4 (H-270): sc-13019

## 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  $\beta$ 4 subunit of neuronal nicotinic acetylcholine receptors. Sp3 is the only Sp member to inhibit Sp1 and Sp4 mediated transcription.

## CHROMOSOMAL LOCATION

Genetic locus: SP4 (human) mapping to 7p15.3; Sp4 (mouse) mapping to 12 F2.

## SOURCE

Sp4 (H-270) is a rabbit polyclonal antibody raised against amino acids 171-440 of Sp4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ 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-13019 X, 200  $\mu$ g/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

Sp4 (H-270) is recommended for detection of Sp4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Sp4 (H-270) is also recommended for detection of Sp4 in additional species, including porcine.

Suitable for use as control antibody for Sp4 siRNA (h): sc-36545, Sp4 siRNA (m): sc-36546, Sp4 shRNA Plasmid (h): sc-36545-SH, Sp4 shRNA Plasmid (m): sc-36546-SH, Sp4 shRNA (h) Lentiviral Particles: sc-36545-V and Sp4 shRNA (m) Lentiviral Particles: sc-36546-V.

Sp4 (H-270) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

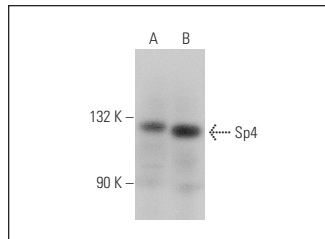
Molecular Weight of Sp4: 80-110 kDa.

Positive Controls: SK-N-MC nuclear extract: sc-2154, KNRK nuclear extract: sc-2141 or HeLa whole cell lysate: sc-2200.

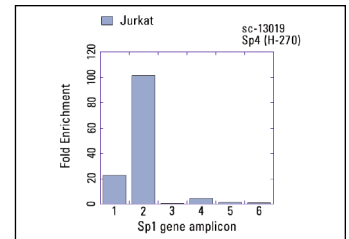
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Sp4 (H-270): sc-13019. Western blot analysis of Sp4 expression in SK-N-MC (A) and KNRK (B) nuclear extracts.



Sp4 (H-270): sc-13019. ChIP analysis of SP4 recruitment to genomic amplicons. Four (1-4) different human genomic Sp-1 and two control amplicons (5,6) were analyzed by quantitative PCR (primer sequences available in on-line supplemental data). Data generated in collaboration with Drs. N. Trinklein and R. Myers, Stanford University (ENCODE project).

## SELECT PRODUCT CITATIONS

- Dabrowska, M., et al. 2004. Regulation of transcription of the human MRP7 gene. Characteristics of the basal promoter and identification of tumor-derived transcripts encoding additional 5' end heterogeneity. *Gene* 341: 129-139.
- Panteleeva, I., et al. 2007. HP1 $\alpha$  guides neuronal fate by timing E2F-targeted genes silencing during terminal differentiation. *EMBO J.* 26: 3616-3628.
- Tasseva, G., et al. 2011. N-Myc and SP regulate phosphatidylinserine synthase-1 expression in brain and glial cells. *J. Biol. Chem.* 286: 1061-1073.

## STORAGE

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


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Satisfaction  
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Try **Sp4 (B-1): sc-390124**, our highly recommended monoclonal alternative to Sp4 (H-270).