

Rabbit SP1 Polyclonal Antibody | anti-SP1 antibody

Phospho-SP1 (Thr278) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329839	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Sheep (100%), Rabbit (100%), Dog (100%)	ELISA, Immunocytochemistry, Immunofluorescence, Western Blot

PRODUCT SYNONYMS

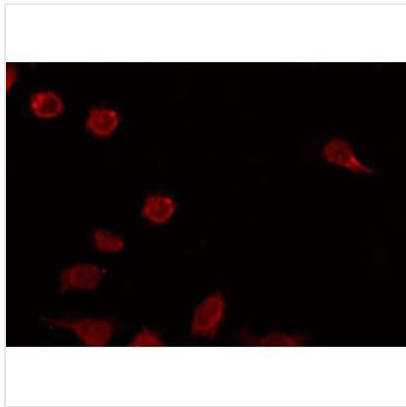
SP1; Polyclonal Antibody; Phospho-SP1 (Thr278) Antibody; SP 1; Sp1 transcription factor; SP1_HUMAN; Specificity protein 1; Transcription factor Sp1; TSFP 1; TSFP1; anti-SP1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Sheep (100%), Rabbit (100%), Dog (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-SP1 (Thr278) Antibody detects endogenous levels of SP1 only when phosphorylated at Thr278. Tissue Specificity: Up-regulated in adenocarcinomas of the stomach (at protein level). Isoform 3 is ubiquitously expressed at low levels.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-SP1 antibody	ELISA (Peptide ELISA), ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide derived from human SP1 around the phosphorylation site of Thr278.
Conjugation	Unconjugated
Fragment	Fab fragment

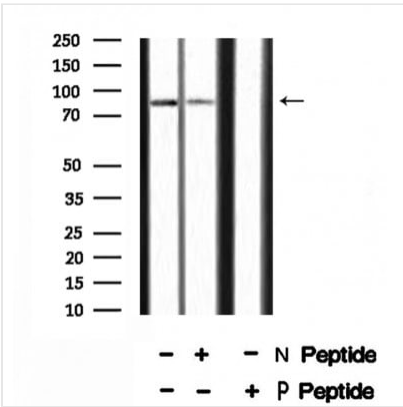
Post Translational Modifications	Phosphorylated on multiple serine and threonine residues. Phosphorylation is coupled to ubiquitination, sumoylation and proteolytic processing. Phosphorylation on Ser-59 enhances proteolytic cleavage. Phosphorylation on Ser-7 enhances ubiquitination and protein degradation. Hyperphosphorylation on Ser-101 in response to DNA damage has no effect on transcriptional activity. MAPK1/MAPK3-mediated phosphorylation on Thr-453 and Thr-739 enhances VEGF transcription but, represses FGF2-triggered PDGFR-alpha transcription. Also implicated in the repression of RECK by ERBB2. Hyperphosphorylated on Thr-278 and Thr-739 during mitosis by MAPK8 shielding SP1 from degradation by the ubiquitin-dependent pathway. Phosphorylated in the zinc-finger domain by calmodulin-activated PKCzeta. Phosphorylation on Ser-641 by PKCzeta is critical for TSA-activated LHR gene expression through release of its repressor, p107. Phosphorylation on Thr-668, Ser-670 and Thr-681 is stimulated by angiotensin II via the AT1 receptor inducing increased binding to the PDGF-D promoter. This phosphorylation is increased in injured artery wall. Ser-59 and Thr-681 can both be dephosphorylated by PP2A during cell-cycle interphase. Dephosphorylation on Ser-59 leads to increased chromatin association during interphase and increases the transcriptional activity. On insulin stimulation, sequentially glycosylated and phosphorylated on several C-terminal serine and threonine residues. Acetylated. Acetylation/deacetylation events affect transcriptional activity. Deacetylation leads to an increase in the expression the 12 (s)-lipoxygenase gene though recruitment of p300 to the promoter. Ubiquitinated. Ubiquitination occurs on the C-terminal proteolytically-cleaved peptide and is triggered by phosphorylation. Sumoylated with SUMO1. Sumoylation modulates proteolytic cleavage of the N-terminal repressor domain. Sumoylation levels are attenuated during tumorigenesis. Phosphorylation mediates SP1 desumoylation. Proteolytic cleavage in the N-terminal repressor domain is prevented by sumoylation. The C-terminal cleaved product is susceptible to degradation. O-glycosylated; Contains 8 N-acetylglucosamine side chains. Levels are controlled by insulin and the SP1 phosphorylation states. Insulin-mediated O-glycosylation locates SP1 to the nucleus, where it is sequentially deglycosylated and phosphorylated. O-glycosylation affects transcriptional activity through disrupting the interaction with a number of transcription factors including ELF1 and NFYA. Also inhibits interaction with the HIV1 promoter. Inhibited by peroxisome proliferator receptor gamma (PPARGgamma).
Subunit Structure	Interacts with ATF7IP, ATF7IP2, BAH1D1, POGZ, HCFC1, AATF and PHC2. Interacts with HLTf; the interaction may be required for basal transcriptional activity of HLTf. Interacts (deacetylated form) with EP300; the interaction enhances gene expression. Interacts with HDAC1 and JUN. Interacts with ELF1; the interaction is inhibited by glycosylation of SP1. Interaction with NFYA; the interaction is inhibited by glycosylation of SP1. Interacts with ATF7IP and TBP. Interacts with MEIS2 isoform 4 and PBX1 isoform PBX1a. Interacts with EGR1. Interacts with SMARCA4/BRG1. Interacts with RNF112 in an oxidative stress-regulated manner (By similarity). Interacts with ZBTB7A; ZBTB7A prevents the binding to GC-rich motifs in promoters and represses the transcriptional activity of SP1. Interacts with DDX3X; this interaction potentiates SP1-induced CDKN1A/WAF1/CIP1 transcription. (Microbial infection) Interacts with varicella-zoster virus IE62 protein. (Microbial infection) Interacts with SV40 VP2/3 proteins. Interacts with SV40 major capsid protein VP1; this interaction leads to a cooperativity between the 2 proteins in DNA binding. (Microbial infection) Interacts with HIV-1 Vpr; the interaction is inhibited by SP1 O-glycosylation.
Similarity	The 9aaTAD motif is a transactivation domain present in a large number of yeast and animal transcription factors. Belongs to the Sp1 C2H2-type zinc-finger protein family.
Subcellular Location	Nucleus. Cytoplasm. Note: Nuclear location is governed by glycosylated/phosphorylated states. Insulin promotes nuclear location, while glucagon favors cytoplasmic location.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

Staining A549 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis SP1 (Phospho-Thr278) using UV treated HeLa whole cell lysates. -/+ means absence or presence of N peptide(¼ non-phospho peptide) and P peptide(phospho peptide).

ADDITIONAL INFORMATION

Related Product Information for anti-SP1 antibody

Transcription factor that can activate or repress transcription in response to physiological and pathological stimuli. Binds with high affinity to GC-rich motifs and regulates the expression of a large number of genes involved in a variety of processes such as cell growth, apoptosis, differentiation and immune responses. Highly regulated by post-translational modifications (phosphorylations, sumoylation, proteolytic cleavage, glycosylation and acetylation). Binds also the PDGFR-alpha G-box promoter. May have a role in modulating the cellular response to DNA damage. Implicated in chromatin remodeling. Plays an essential role in the regulation of FE65 gene expression. In complex with ATF7IP, maintains telomerase activity in cancer cells by inducing TERT and TERC gene expression. Isoform 3 is a stronger activator of transcription than isoform 1. Positively regulates the transcription of the core clock component ARNTL/BMAL1. Plays a role in the recruitment of SMARCA4/BRG1 on the c-FOS promoter. Plays a role in protecting cells against oxidative stress following brain injury by regulating the expression of RNF112 (By similarity).

NCBI AND UNIPROT INFORMATION

NCBI GI #	352962149
NCBI GeneID	6667
NCBI Accession #	NP_001238754.1
NCBI GenBank Nucleotide #	NM_001251825.1
UniProt Accession #	P08047; Q86TN8; Q9H3Q5; Q9NR51; Q9NY21; Q9NYE7
Molecular Weight	80,693 Da
NCBI Official Full Name	transcription factor Sp1 isoform c
NCBI Official Synonym Full Names	Sp1 transcription factor
NCBI Official Symbol	SP1
NCBI Protein Information	transcription factor Sp1; specificity protein 1
UniProt Protein Name	Transcription factor Sp1
UniProt Gene Name	SP1
UniProt Synonym Gene Names	TSFP1
UniProt Entry Name	SP1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/sp1-antibody-peptide-elisa-immunocytochemistry-immunofluorescence-western-blot-elisa/329839>