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SP3 Rabbit pAb

Catalog # AP99606

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q02447
Other Accession	Q02447
Predicted	Rat, Human, Mouse, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Calculated MW	81925
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SP3
Epitope Specificity	651-750/781
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the Sp1 C2H2-type zinc-finger protein family. Contains 3 C2H2-type zinc fingers.
SUBUNIT	Interacts with HLTF; the interaction may be required for basal transcriptional activity of HLTF. Interacts with HDAC1; the interaction deacetylates SP3 and regulates its transcriptional activity. Interacts with HDAC2 (preferably the CK2-phosphorylated form); the interaction deacetylates SP3 and regulates its transcriptional activity. Interacts with MEIS2 isoform 4 and PBX1 isoform PBX1a.
Post-translational modifications	Not glycosylated.Acetylated by histone acetyltransferase p300, deacetylated by HDACs. Acetylation/deacetylation states regulate transcriptional activity. Acetylation appears to activate transcription. Alternate sumoylation and acetylation at Lys-551 also control transcriptional activity. Ceramides can also regulate acetylation/deacetylation events through altering the interaction of HDAC with SP3. In vitro, C(18)-ceramides, but not C(16)-ceramides, increase the interaction of HDAC1 with SP3 and enhance the deacetylation of SP3 and the subsequent repression of the TERT promoter.Sumoylated on all isoforms. Sumoylated on 2 sites in longer isoforms with Lys-551 being the major site. Sumoylation at this site promotes nuclear localization to the nuclear periphery, nuclear dots and PML nuclear bodies. Sumoylation on Lys-551 represses the transactivation activity, except for the largest isoform, L-Sp3, which has little effect on transactivation. Alternate sumoylation and acetylation at Lys-551 also control transcriptional activity.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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 simi-lar 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 ∫4 subunit of neuronal nicotinic acetylcholine receptors. Sp3 is the only Sp member to inhibit Sp1 and Sp4 media

Additional Information

Gene ID	6670
Other Names	SPR2; D130027J01Rik; SP3_HUMAN; SP3; SPR-2; SP3_MOUSE; Sp3 transcription factor
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SP3
Function	Transcriptional factor that can act as an activator or repressor depending on isoform and/or post-translational modifications. Binds to GT and GC boxes promoter elements. Competes with SP1 for the GC-box promoters. Weak activator of transcription but can activate a number of genes involved in different processes such as cell-cycle regulation, hormone-induction and house-keeping.
Cellular Location	Nucleus. Nucleus, PML body. Note=Localizes to the nuclear periphery and in nuclear dots when sumoylated. Some localization in PML nuclear bodies
Tissue Location	Ubiquitously expressed.

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