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PLAG1 Rabbit pAb

Catalog # AP98060

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q6DJT9
Other Accession	Q6DJT9
Reactivity	Human, Mouse
Predicted	Rat, Pig, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55909
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PLAG1
Epitope Specificity	21-120/500
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 krueppel C2H2-type zinc-finger protein family. Contains 7 C2H2-type zinc fingers.
SUBUNIT	Interacts with KPNA2, which escorts protein to the nucleus via interaction with nuclear localization signal. Interacts with E3 SUMO-protein ligase PIAS1, PIAS2 and PIAS4.
Post-translational modifications	Sumoylated by SUMO1; which inhibits transcriptional activity, but does not affect nuclear localization. Blockers of sumoylation pathway such as SENP3 and inactive UBE2I increases transcriptional capacity. Sumoylation is increased in the presence of PIAS1. Acetylated by lysine acetyltransferase EP300; which activates transcriptional capacity. Lysine residues that are sumoylated also seem to be target for acetylation.
DISEASE	Note=A chromosomal aberration involving PLAG1 is found in salivary gland pleiomorphic adenomas, the most common benign epithelial tumors of the salivary gland. Translocation t(3;8)(p21;q12) with constituvely expressed beta-catenin/CTNNB1. Fusion occurs in the 5'-regulatory regions, leading to promoter swapping between the 2 genes and activation of PLAG1 expression in adenomas. The chimeric transcript is formed by fusion of CTNNB1 exon 1 to PLAG1 exon 3. Reciprocal fusion transcript consisting of PLAG1 exon 1 and CTNNB1 exon 2-16 is also revealed in some adenomas. Translocation t(3;8)(p21;q12) with transcription elongation factor SII/TCEA1. The fusion transcript is composed of 5'-non-coding sequences as well as 63 nucleotides of the coding region of TCEA1 fused to the acceptor splice site of PLAG1 exon 3. The fusion transcript encodes a truncated TCEA1-PLAG1 protein of 90 AA as well as an apparently normal PLAG1 protein. Reciprocal fusion transcript PLAG1-TCEA1 is also present in one adenoma. Translocation t(5;8)(p13;q12) with leukemia inhibitory factor receptor LIFR. This fusion occured in the 5'-non-coding sequences of both genes, exchanging regulatory control element while preserving the coding sequences. Translocation t(6;8)(p21.3-22;q13) with Coiled-coil-helix-coiled-coil-helix domain-containing protein 7/CHCHD7. Fusion occurs in the 5' regulatory regions, leading to promoter swapping and up-regulation of PLAG1 expression. Ectopic

	expression of PLAG1 under the control of promoters of distinct translocation partner genes is a general pathogenetic mechanism for pleiomorphic adenomas with 8q aberrations. These fusion genes are likely to be found in adenomas with normal karyotype as this subgroup of tumors also exhibit PLAG1 activation. Note=A chromosomal aberration involving PLAG1 may be a cause of lipoblastomas, which are benign tumors resulting from transformation of adipocytes, usually diagnosed in children. 8q12.1 to 8q24.1 intrachromosomal rearrangement with hyaluronic acid synthase 2/HAS2 results in promoter swapping and activation of PLAG1 expression. The breakpoint of HAS2 gene is in PLAG1 intron 1, whereas its coding sequence starts at exon 2 or exon 3. Translocation t(7;8)(p22;q13) with collagen 1A2/COL1A2. Fusion transcript COL1A2-PLAG1 as well as HAS2-PLAG1 encode a full-length PLAG1 protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Pleomorphic adenoma gene 1 encodes a zinc finger protein with 2 putative nuclear localization signals. PLAG1, which is developmentally regulated, has been shown to be consistently rearranged in pleomorphic adenomas of the salivary glands. PLAG1 is activated by the reciprocal chromosomal translocations involving 8q12 in a subset of salivary gland pleomorphic adenomas. Three transcript variants encoding two different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	5324
Other Names	PSA; SGPA; SRS4; ZNF912; PLAG1_HUMAN; PLAG1; Pleiomorphic adenoma gene 1 protein; PLAG1_MOUSE; PLAG1_RAT; PLAG1 zinc finger; pleiomorphic adenoma gene 1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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	PLAG1
Function	Transcription factor whose activation results in up- regulation of target genes, such as IGFII, leading to uncontrolled cell proliferation: when overexpressed in cultured cells, higher proliferation rate and transformation are observed. Other target genes such as CRLF1, CRABP2, CRIP2, PIGF are strongly induced in cells with PLAG1 induction. Proto-oncogene whose ectopic expression can trigger the development of pleomorphic adenomas of the salivary gland and lipoblastomas. Overexpression is associated with up-regulation of IGFII, is frequently observed in hepatoblastoma, common primary liver tumor in childhood. Cooperates with CBFB-MYH11, a fusion gene important for myeloid leukemia.
Cellular Location	Nucleus. Note=Strong nucleolar localization when sumoylation is inhibited
Tissue Location	Expressed in fetal tissues such as lung, liver and kidney. Not detected or weak detection in normal adult tissues, but highly expressed in salivary gland with

benign or malignant pleiomorphic adenomas with or without 8q12 aberrations, with preferential occurrence in benign tumors.

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