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# Rabbit Anti-PLAG1 antibody

SL10092R

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| **Product Name:** | PLAG1 |
| **Chinese Name:** | 多型性腺瘤基因1蛋白抗体 |
| **Alias:** | FGFR1/PLAG1 fusion variant 3; Pleiomorphic adenoma gene 1 protein; PSA; SGPA; COL1A2/PLAG1 fusion; Plag1; PLAG1_HUMAN; Pleiomorphic adenoma gene 1; Zinc finger protein PLAG1; ZNF912. |
| **Organism Species:** | Rabbit |
| **Clonality:** | Polyclonal |
| **React Species:** | Human,Mouse,Rat,Dog,Pig,Cow,Horse,Rabbit, |
| **Applications:** | ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=1:100-500（Paraffin sections need antigen repair）<br>not yet tested in other applications.<br>optimal dilutions/concentrations should be determined by the end user. |
| **Molecular weight:** | 56kDa |
| **Cellular localization:** | The nucleus |
| **Form:** | Lyophilized or Liquid |
| **Concentration:** | 1mg/ml |
| **immunogen:** | KLH conjugated synthetic peptide derived from human PLAG1:51-150/500 |
| **Lsotype:** | IgG |
| **Purification:** | affinity purified by Protein A |
| **Storage Buffer:** | 0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol. |
| **Storage:** | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. 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. |
| **PubMed:** | PubMed |
| **Product Detail:** | 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]

**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.

**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.

**Subcellular Location:**
Nucleus. Strong nucleolar localization when sumoylation is inhibited.

**Tissue Specificity:**
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 abberations, with preferential occurrence in benign tumors.

**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.

**Similarity:**
Belongs to the krueppel C2H2-type zinc-finger protein family.
Contains 7 C2H2-type zinc fingers.

**SWISS:**
Q6DJT9

**Gene ID:**
5324

**Database links:**

Entrez Gene: 5324Human

Entrez Gene: 56711Mouse

Entrez Gene: 297804Rat

Omim: 603026Human

SwissProt: Q6DJT9Human

SwissProt: Q9QYE0Mouse

SwissProt: Q5U2T6Rat

Unigene: 14968Human

Unigene: 331467Mouse

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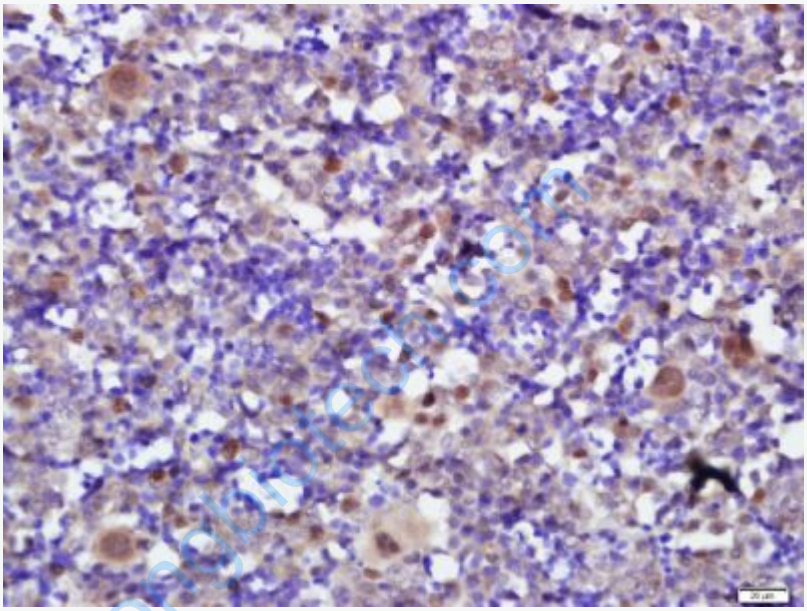
| | Unigene: 39161Rat<br><br>**Important Note:**<br>This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **Picture:** |  <br>Tissue/cell: mouse embryo liver; 4% Paraformaldehyde-fixed and paraffin-embedded;<br>Antigen retrieval: Tris-EDTA buffer (0.01M, pH 9.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;<br>Incubation: Anti-PLAG1 Polyclonal Antibody, Unconjugated(SL10092R) 1:400, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining |