abcam

Product datasheet

Anti-PLAG1 antibody ab87662

1 Image

Overview

Product name	Anti-PLAG1 antibody
Description	Rabbit polyclonal to PLAG1
Host species	Rabbit
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat, Rabbit, Horse, Guinea pig, Cat, Dog
Immunogen	Synthetic peptide corresponding to a region within C terminal amino acids 432-481 (YNPLSVGSLG MSYSQEEAHS SVSQLPTQTQ DLQDPANTIG LGSLHSLSAA) of human PLAG1 (NP_002646). Run BLAST with ExPASy Run BLAST with NCBI
Positive control	OVCAR3 cell lysate

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 2% Sucrose
Purity	Immunogen affinity purified
Purification notes	Purified by peptide affinity chromatography method.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab87662** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes

Application	Abreviews	Notes
WB		Use a concentration of 1 µg/ml. Predicted molecular weight: 56 kDa. Good results were obtained when blocked with 5% non-fat dry milk in 0.05% PBS-T.

Target

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.

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.

Involvement in 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.

Sequence similarities

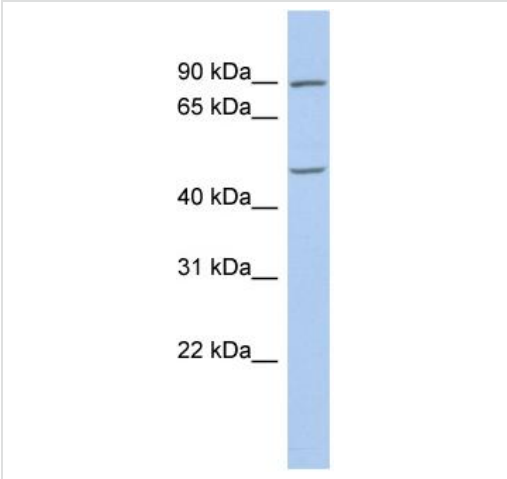
Belongs to the krueppel C2H2-type zinc-finger protein family.
Contains 7 C2H2-type zinc fingers.

Domain

C2H2-type zinc fingers 3 interacts with DNA-binding site G-clusterinc fingers. C2H2-type zinc

	fingers 6 and 7 interact with DNA-binding site core sequence.
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.
Cellular localization	Nucleus. Strong nucleolar localization when sumoylation is inhibited.

Images



Western blot - Anti-PLAG1 antibody (ab87662)

Anti-PLAG1 antibody (ab87662) at 1 µg/ml (in 5% skim milk/ PBS buffer) + OVCAR3 cell lysate at 10 µg

Secondary

HRP conjugated anti-Rabbit IgG at 1/50000 dilution

Predicted band size: 56 kDa

Observed band size: 56 kDa

Additional bands at: 90 kDa. We are unsure as to the identity of these extra bands.

Gel concentration: 12%

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors