SANTA CRUZ BIOTECHNOLOGY, INC.

ZAC1 (C-20): sc-33309

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pleiomorphic adenoma gene (PLAG1) encodes a zinc finger protein and is the target gene for pleiomorphic adenomas of the salivary gland. The PLAG family of zinc finger proteins include PLAG1, ZAC1 and PLAG-like 2 (PLAGL2). ZAC1, also known as PLAGL1, concomitantly controls apoptosis and cell cycle arrest through separate pathways. ZAC1 also acts as a positive or negative transcriptional cofactor for nuclear receptors, depending on the expression of functional p53. ZAC1 is broadly expressed in embryo, with highest expression in the liver primordium, the umbilical region and the neural tube. PLAGL1 is also expressed in normal mammary gland. PLAGL2 functions as a positive regulator of transcription and localizes to the nucleus. PLAGL2 and ZAC1 bind to the DNA consensus sequence ACGGGGGCCCCTTTA. PLAGL2 is ubiquitously expressed with particular abundance in spleen, lung and testis, where it may be involved in cell cycle arrest and apoptosis of tumor cells.

REFERENCES

1. Kas, K., et al. 1997. Promoter swapping between the genes for a novel zinc finger protein and beta-catenin in pleiomorphic adenomas with t(3;8)(p21;q12) translocations. Nat. Genet. 15: 170-174.
2. Kas, K., et al. 1998. Transcriptional activation capacity of the novel PLAG family of zinc finger proteins. J. Biol. Chem. 273: 23026-23032.
3. Bilanges, B., et al. 1999. Loss of expression of the candidate tumor suppressor gene ZAC in breast cancer cell lines and primary tumors. Oncogene 18: 3979-3988.
4. Piras, G., et al. 2000. ZAC1 (Lot1), a potential tumor suppressor gene, and the gene for ε-sarcoglycan are maternally imprinted genes: identification by a subtractive screen of novel uniparental fibroblast lines. Mol. Cell. Biol. 9: 3308-3315.
5. Huang, S.M., et al. 2001. Enhancement of p53-dependent gene activation by the transcriptional coactivator ZAC1. Oncogene 17: 2134-2143.
6. Furukawa, T., et al. 2001. Involvement of PLAGL2 in activation of iron deficient- and hypoxia-induced gene expression in mouse cell lines. Oncogene 20: 4718-4727.

CHROMOSOMAL LOCATION

Genetic locus: PLAGL1 (human) mapping to 6q24.2.

SOURCE

ZAC1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ZAC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-33309 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-33309 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZAC1 (C-20) is recommended for detection of ZAC1 of human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ZAC1 (C-20) is also recommended for detection of ZAC1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ZAC1 siRNA (h): sc-38183, ZAC1 shRNA Plasmid (h): sc-38183-SH and ZAC1 shRNA (h) Lentiviral Particles: sc-38183-V.

ZAC1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ZAC1: 51 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Noh, T.W., et al. 2009. Predicting recurrence of nonfunctioning pituitary adenomas. J. Clin. Endocrinol. Metab. 94: 4406-4413.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.