SANTA CRUZ BIOTECHNOLOGY, INC.

RUNX2 (S-19): sc-12488

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mammalian Runt-related transcription factor (RUNX) family comprises three members, RUNX1 (also designated AML-1, PEBP2αB, CBFA2), RUNX2 (also designated AML-3, PEBP2αA, CBFA1, Osf2) and RUNX3 (also designated AML-2, PEBPαC, CBFA3). RUNX family members are DNA-binding proteins that regulate the expression of genes involved in cellular differentiation and cell cycle progression. RUNX2 is essential for skeletal mineralization in that it stimulates osteoblast differentiation of mesenchymal stem cells, promotes chondrocyte hypertrophy and contributes to endothelial cell migration and vascular invasion of developing bones. Regulating RUNX2 expression may be a useful therapeutic tool for promoting bone formation. Mutations in the C-terminus of RUNX2 are associated with cleidocranial dysplasia syndrome, an autosomal-dominant skeletal dysplasia syndrome that is characterized by widely patent calvarial sutures, clavicular hypoplasia, supernumerary teeth and short stature.

CHROMSOMAL LOCATION

Genetic locus: RUNX2 (human) mapping to 6p21.1; Runx2 (mouse) mapping to 17 B3.

SOURCE

RUNX2 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RUNX2 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.

Blocking peptide available for competition studies, sc-12488 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-12488 X, 100 µg/0.1 ml.

APPLICATIONS

RUNX2 (S-19) is recommended for detection of RUNX2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

RUNX2 (S-19) is also recommended for detection of RUNX2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for RUNX2 siRNA (h): sc-37145, RUNX2 siRNA (m): sc-37146, RUNX2 shRNA Plasmid (h): sc-37145-SH, RUNX2 shRNA Plasmid (m): sc-37146-SH, RUNX2 shRNA (h) Lentiviral Particles: sc-37145-V and RUNX2 shRNA (m) Lentiviral Particles: sc-37146-V.

RUNX2 (S-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

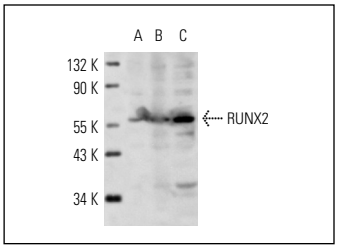
Molecular Weight of RUNX2: 55 kDa.

Positive Controls: PC-3 cell lysate: sc-2220.

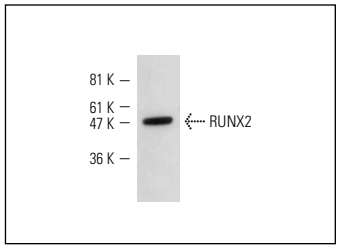
STORAGE

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

DATA



PEBP2αA (S-19): sc-12488. Western blot analysis of PEBP2αA expression in MG-63 (**A**), PC-3 (**B**) and 143.98.2 (**C**) whole cell lysates.



PEBP2αA (S-19): sc-12488. Western blot analysis of PEBP2αA expression in adenovirus Runx2 infected MDCK cells. Kindly provided by Midory Thorikay and Maarten van Dinther, Department of Cellular Biochemistry, The Netherlands Cancer Institute Amsterdam.

SELECT PRODUCT CITATIONS

1. Lossdorfer, S., et al. 2002. Localization of IL-1α, IL-1 RI, TNF, TNF-RI and TNF-RII during physiological drift of rat molar teeth—an immunohistochemical and *in situ* hybridization study. Cytokine 20: 7-16.
2. Westendorf, J.J., et al. 2002. RUNX2 (CBFA1, AML-3) interacts with Histone deacetylase 6 and represses the $p21^{Cip1/WAF1}$ promoter. Mol. Cell. Biol. 22: 7982-7992.
3. Kuyama, K., et al. 2009. Rare lipomatous tumors with osseous and/or chondroid differentiation in the oral cavity report of two cases and review of the literature. Int. J. Dent. 2009: 143460.
4. Piscopo, D.M., et al. 2009. Identification of the GATA factor TRPS1 as a repressor of the osteocalcin promoter. J. Biol. Chem. 284: 31690-31703.
5. Mai, S., et al. 2010. The missense mutation W290R in Fgfr2 causes developmental defects from aberrant IIIb and IIIc signaling. Dev. Dyn. 239: 1888-1900.
6. Li, K.L., et al. 2012. p53 negatively regulates the osteogenic differentiation of vascular smooth muscle cells in mice with chronic kidney disease. Cardiovasc. J. Afr. 23: e1-e9.

RESEARCH USE

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