

RUNX2 (M-70): sc-10758

BACKGROUND

The mammalian Runt-related transcription factor (RUNX) family comprises three members, RUNX1 (also designated AML-1, PEBP2 α B, CBFA2), RUNX2 (also designated AML-3, PEBP2 α A, CBFA1, Osf2) and RUNX3 (also designated AML-2, PEBP α C, 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.

CHROMOSOMAL LOCATION

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

SOURCE

RUNX2 (M-70) is a rabbit polyclonal antibody raised against amino acids 294-363 of RUNX2 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-10758 X, 200 μ g/0.1 ml.

APPLICATIONS

RUNX2 (M-70) 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 μ g per 100-500 μ g 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 (M-70) is also recommended for detection of RUNX2 in additional species, including canine, equine, bovine, porcine and avian.

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 (M-70) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

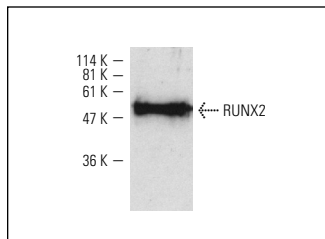
Molecular Weight of RUNX2: 55 kDa.

Positive Controls: MDCK cell lysate: sc-2252 or Saos-2 cell lysate: sc-2235.

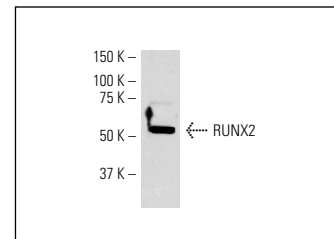
STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



RUNX2 (M-70): sc-10758. Western blot analysis of RUNX2 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.



RUNX2 (M-70): sc-10758. Western blot analysis of RUNX2 expression in MDCK whole cell lysate.

SELECT PRODUCT CITATIONS

- Luppen, C.A., et al. 2003. Brief bone morphogenetic protein 2 treatment of glucocorticoid-inhibited MC3T3-E1 osteoblasts rescues commitment-associated cell cycle and mineralization without alteration of Runx2. *J. Biol. Chem.* 278: 44995-45003.
- Gordon, J.A., et al. 2011. Epigenetic regulation of early osteogenesis and mineralized tissue formation by a HOXA10-PBX1-associated complex. *Cells Tissues Organs* 194: 146-150.
- Shimizu, T., et al. 2011. Notch signaling pathway enhances bone morphogenetic protein 2 (BMP2) responsiveness of Mx2 gene to induce osteogenic differentiation and mineralization of vascular smooth muscle cells. *J. Biol. Chem.* 286: 19138-19148.
- Zhang, H., et al. 2011. FOXO1 inhibits Runx2 transcriptional activity and prostate cancer cell migration and invasion. *Cancer Res.* 71: 3257-3267.
- Torreggiani, E., et al. 2011. Role of Slug transcription factor in human mesenchymal stem cells. *J. Cell. Mol. Med.* 16: 740-751.
- Torreggiani, E., et al. 2011. Osteogenic potential of cells derived from nasal septum. *Rhinology* 49: 148-154.
- Hie, M., et al. 2011. Zinc deficiency decreases osteoblasts and osteoclasts associated with the reduced expression of Runx2 and RANK. *Bone* 49: 1152-1159.

RESEARCH USE

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



Try **RUNX2 (F-2): sc-390351** or **RUNX2 (C-12): sc-390715**, our highly recommended monoclonal alternatives to RUNX2 (M-70). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **RUNX2 (F-2): sc-390351**.