

# RUNX2 (C-19): sc-8566

## BACKGROUND

The mammalian Runt-related transcription factor (RUNX) family comprises three members, RUNX1 (also designated AML-1, PEBP2 $\alpha$ B, CBFA2), RUNX2 (also designated AML-3, PEBP2 $\alpha$ A, CBFA1, Osf2) and RUNX3 (also designated AML-2, PEBP $\alpha$ 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 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of RUNX2 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8566 P, (100  $\mu$ g 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-8566 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

RUNX2 (C-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  $\mu$ g per 100-500  $\mu$ 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 (C-19) is also recommended for detection of RUNX2 in additional species, including equine, canine, 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.

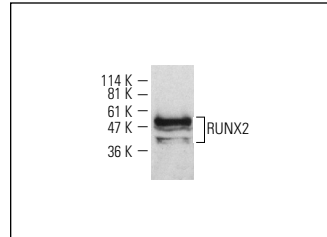
RUNX2 (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RUNX2: 55 kDa.

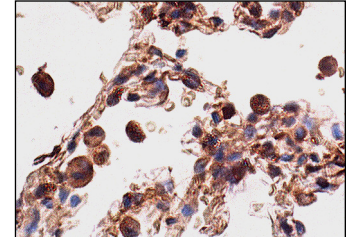
## STORAGE

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

## DATA



RUNX2 (C-19): sc-8566. 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 (C-19): sc-8566. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing nuclear and cytoplasmic staining of macrophages and pneumocytes.

## SELECT PRODUCT CITATIONS

1. Thomas, D.M., et al. 2001. The retinoblastoma protein acts as a transcriptional co-activator required for osteogenic differentiation. *Mol. Cell* 8: 303-316.
2. Neven, E., et al. 2010. Chondrocyte rather than osteoblast conversion of vascular cells underlies medial calcification in uremic rats. *Arterioscler. Thromb. Vasc. Biol.* 30: 1741-1750.
3. Inoue, Y., et al. 2011. Menin interacts with  $\beta$ -catenin in osteoblast differentiation. *Horm. Metab. Res.* 43: 183-187.
4. Jiao, K., et al. 2011. Subchondral bone loss following orthodontically induced cartilage degradation in the mandibular condyles of rats. *Bone* 48: 362-371.
5. Rauner, M., et al. 2011. Dissociation of osteogenic and immunological effects by the selective glucocorticoid receptor agonist, compound A, in human bone marrow stromal cells. *Endocrinology* 152: 103-112.
6. Duque, G., et al. 2011. Interferon- $\gamma$  plays a role in bone formation *in vivo* and rescues osteoporosis in ovariectomized mice. *J. Bone Miner. Res.* 26: 1472-1483.
7. Zhang, X., et al. 2013. Experimentally created unilateral anterior crossbite induces a degenerative ossification phenotype in mandibular condyle of growing Sprague-Dawley rats. *J. Oral Rehabil.* 40: 500-508.

## 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 (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **RUNX2 (F-2): sc-390351**.