

RUNX3 (K-12): sc-23576

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), and belongs to the acute myeloid leukemia (AML) family. RUNX family members are DNA-binding proteins that regulate the expression of genes involved in cellular differentiation and cell cycle progression. RUNX3 is expressed in cells of hematopoietic origin, including myeloid and B-cell lines and spleen. By playing a role in controlling the growth and differentiation of gastric epithelial cells, RUNX3 is a strong candidate as a gastric cancer tumor suppressor. Specifically, hypermethylation inactivates the gene encoding RUNX3. The detection of hypermethylation at multiple regions within the RUNX3 CpG island may aid in the diagnosis and risk assessment of gastric cancer.

REFERENCES

1. Bae, S.C., et al. 1995. Cloning, mapping and expression of PEBP2 α C, a third gene encoding the mammalian runt domain. *Gene* 159: 245-248.
2. Speck, N.A. and Terry, S. 1995. A new transcription factor family associated with human leukemias. *Crit. Rev. Eukaryot. Gene Expr.* 5: 337-364.
3. Meyers, S., et al. 1996. AML-2 is a potential target for transcriptional regulation by the t(8;21) and t(12;21) fusion proteins in acute leukemia. *Oncogene* 13: 303-312.
4. Zent, C., et al. 1997. Rearrangements of the AML1/CBFA2 gene in myeloid leukemia with the 3;21 translocation: *in vitro* and *in vivo* studies. *Leukemia* 3: 273-278.
5. Le, X.F., et al. 1999. Regulation of AML2/CBFA3 in hematopoietic cells through the retinoic acid receptor α -dependent signaling pathway. *J. Biol. Chem.* 274: 21651-21658.
6. Kataoka, H., et al. 2000. Cloning and embryonic expression patterns of the zebrafish runt domain genes, *runxa* and *runxb*. *Mech. Dev.* 98: 139-143.

CHROMOSOMAL LOCATION

Genetic locus: RUNX3 (human) mapping to 1p36.11; Runx3 (mouse) mapping to 4 D3.

SOURCE

RUNX3 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RUNX3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-23576 P, (100 μ 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-23576 X, 200 μ g/0.1 ml.

APPLICATIONS

RUNX3 (K-12) is recommended for detection of RUNX3 (Runt-related transcription factor 3) isoforms 1 and 2 of mouse, rat and human 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).

RUNX3 (K-12) is also recommended for detection of RUNX3 (Runt-related transcription factor 3) isoforms 1 and 2 in additional species, including bovine and porcine.

Suitable for use as control antibody for RUNX3 siRNA (h): sc-37679, RUNX3 siRNA (m): sc-37680, RUNX3 shRNA Plasmid (h): sc-37679-SH, RUNX3 shRNA Plasmid (m): sc-37680-SH, RUNX3 shRNA (h) Lentiviral Particles: sc-37679-V and RUNX3 shRNA (m) Lentiviral Particles: sc-37680-V.

RUNX3 (K-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RUNX3 full length isoforms: 48/46 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or MEG-01 nuclear extract: sc-2150.

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. Galli, C., et al. 2009. Commitment to the osteoblast lineage is not required for RANKL gene expression. *J. Biol. Chem.* 284: 12654-12662.

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.



Try **RUNX3 (R3-5G4): sc-101553** or **RUNX3 (A-3): sc-376591**, our highly recommended monoclonal alternatives to RUNX3 (K-12). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **RUNX3 (R3-5G4): sc-101553**.