Anti-RUNX1+RUNX2+RUNX3 Antibody [SD0803]

ET1612-49

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IF-Tissue, IHC-P, IP, FC
Molecular Wt:	49 kDa
Clone number:	SD0803

Description: 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. RUNX1 is involved in hematopoiesis and is frequently targeted in human leukemia by chromosomal translocations that fuse the DNA-binding domain of RUNX1 to other transcription factors and corepressor molecules. In addition to its role in leukemogenesis, RUNX1 is also involved in sensory neuron diversification. RUNX1 promotes axonal growth, is selectively expressed in neural crest-derived TrkA+ sensory neurons and mediates TrkA transactivation in migratory neural crest cells. 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. 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.

Immunogen:	Synthetic peptide within Human RUNX1 aa 404-453 / 453.
Positive control:	Saos-2 cell lysate, NIH/3T3 cell lysate, SHG-44 cell lysate, Mouse thymus tissue lysate, SHG-44, mouse testis tissue, human tonsil tissue.
Subcellular location:	Nucleus, Cytoplasm.
Database links:	SwissProt: Q01196 Human | Q13761 Human | Q13950 Human | Q03347 Mouse | Q08775 Mouse | Q64131 Mouse | Q63046 Rat | Q9Z2J9 Rat

Recommended Dilutions:

WB	1:500-1:2,000
IF-Cell	1:50-1:200
IF-Tissue	1:50-1:200
IHC-P	1:50-1:200
FC	1:1:1,000
IP	Use at an assay dependent concentration.

Storage Buffer:	1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

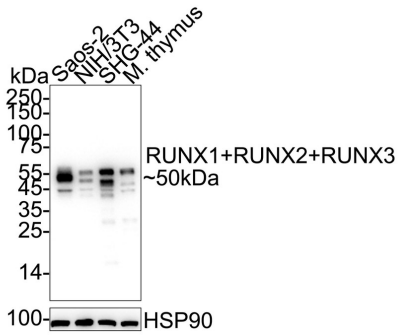

Fig1: Western blot analysis of RUNX1+RUNX2+RUNX3 on different lysates with Rabbit anti-RUNX1+RUNX2+RUNX3 antibody (ET1612-49) at 1/1,000 dilution.

Lane 1: Saos-2 cell lysate
Lane 2: NIH/3T3 cell lysate
Lane 3: SHG-44 cell lysate
Lane 4: Mouse thymus tissue lysate

Lysates/proteins at 10 µg/Lane1-3 and 20ug/Lane4.

Predicted band size: 49 kDa
Observed band size: 50 kDa

Exposure time: 14 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1612-49) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

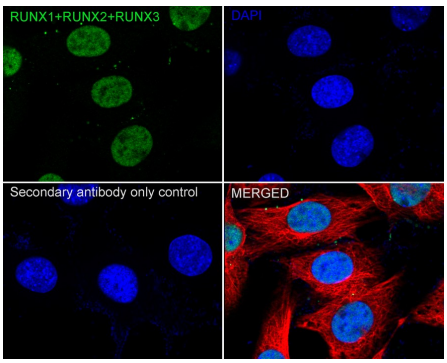

Fig2: Immunocytochemistry analysis of SHG-44 cells labeling RUNX1+RUNX2+RUNX3 with Rabbit anti-RUNX1+RUNX2+RUNX3 antibody (ET1612-49) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-RUNX1+RUNX2+RUNX3 antibody (ET1612-49) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

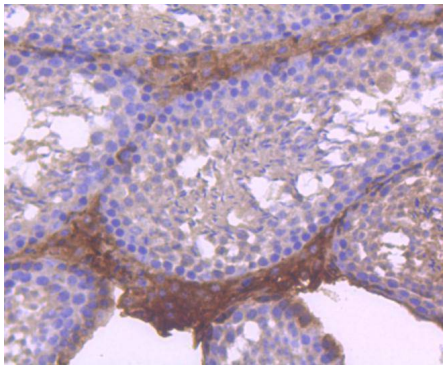

Fig3: Immunohistochemical analysis of paraffin-embedded mouse testis tissue using anti-RUNX1+RUNX2+RUNX3 antibody. Counter stained with hematoxylin.

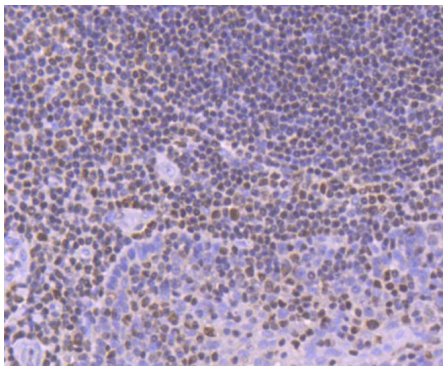

Fig4: Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti-RUNX1+RUNX2+RUNX3 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1612-49, 1/50) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

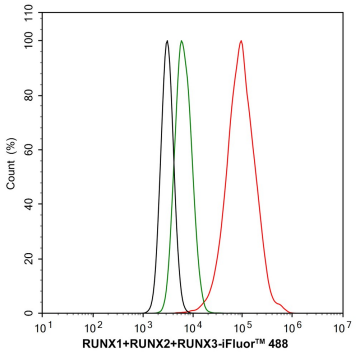

Fig5: Flow cytometric analysis of SHG-44 cells labeling RUNX1+RUNX2+RUNX3.

Cells were fixed and permeabilized. Then stained with the primary antibody (ET1612-49, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Ponder KL et al. Preeclampsia and Inflammatory Preterm Labor Alter the Human Placental Hematopoietic Niche. Reprod Sci 23:1179-92 (2016).
2. Treanor LM et al. Interleukin-7 receptor mutants initiate early T cell precursor leukemia in murine thymocyte progenitors with multipotent potential. J Exp Med 211:701-13 (2014).