

p-RUNX1 (12.Ser 249): sc-293146

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. 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. Specifically, RUNX1 promotes axonal growth, is selectively expressed in neural crest-derived TrkA⁺ sensory neurons and mediates TrkA transactivation in migratory neural crest cells. Alternative splicing gives rise to several isoforms of RUNX1, and RUNX1 is phosphorylated on Serine 249.

REFERENCES

1. Daga, A., et al. 1992. Leukemia/*Drosophila* homology. Nature 356: 448.
2. Golub, T.R., et al. 1995. Fusion of the TEL gene on 12p13 to the AML1 gene on 21q22 in acute lymphoblastic leukemia. Proc. Natl. Acad. Sci. USA 92: 4917-4921.
3. Miyoshi, H., et al. 1995. Alternative splicing and genomic structure of the AML1 gene involved in acute myeloid leukemia. Nucleic Acids Res. 23: 2762-2769.
4. Levanon, D., et al. 1996. A large variety of alternatively spliced and differentially expressed mRNAs are encoded by the human acute myeloid leukemia gene AML1. DNA Cell Biol. 15: 175-185.
5. Mitani, K. 1997. Leukemogenesis by the chromosomal translocations. Leukemia 11: 294-296.
6. Fenrick, R., et al. 1998. Role of histone deacetylases in acute leukemia. J. Cell. Biochem. 72: 194-202.
7. Ito, Y., et al. 2004. Oncogenic potential of the RUNX gene family: "overview". Oncogene 23: 4198-4208.
8. Durst, K.L., et al. 2004. Role of RUNX family members in transcriptional repression and gene silencing. Oncogene 23: 4220-4224.
9. Yoshida, C.A., et al. 2005. Role of Runx proteins in chondrogenesis. Crit. Rev. Eukaryot. Gene Expr. 15: 243-254.

CHROMOSOMAL LOCATION

Genetic locus: RUNX1 (human) mapping to 21q22.12.

SOURCE

p-RUNX1 (12.Ser 249) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 249 phosphorylated RUNX1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-RUNX1 (12.Ser 249) is recommended for detection of Ser 249 phosphorylated RUNX1 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RUNX1 siRNA (h): sc-37677, RUNX1 shRNA Plasmid (h): sc-37677-SH and RUNX1 shRNA (h) Lentiviral Particles: sc-37677-V.

Molecular Weight of p-RUNX1: 20-52 kDa.

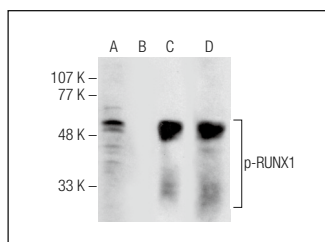
Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Western blot analysis of RUNX1 phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) Jurkat nuclear extracts. Antibodies tested include p-RUNX1 (12.Ser 249): sc-293146 (A,B) and RUNX1 (A-2): sc-365644 (C,D).

SELECT PRODUCT CITATIONS

1. Whitmore, H.A.B., et al. 2021. TNF α signaling regulates RUNX1 function in endothelial cells. FASEB J. 35: e21155.

STORAGE

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