SANTA CRUZ BIOTECHNOLOGY, INC.

RUNX1 (DW71): sc-101146

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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 co-repressor 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 Trk A+ sensory neurons and mediates Trk A transactivation in migratory neural crest cells. Alternative splicing gives rise to several isoforms of RUNX1.

CHROMOSOMAL LOCATION

Genetic locus: RUNX1 (human) mapping to 21q22.12; Runx1 (mouse) mapping to 16 C4.

SOURCE

RUNX1 (DW71) is a mouse monoclonal antibody raised against recombinant RUNX1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RUNX1 (DW71) is recommended for detection of a broad range of RUNX1 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) 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 siRNA (m): sc-37678, RUNX1 shRNA Plasmid (h): sc-37677-SH, RUNX1 shRNA Plasmid (m): sc-37678-SH, RUNX1 shRNA (h) Lentiviral Particles: sc-37677-V and RUNX1 shRNA (m) Lentiviral Particles: sc-37678-V.

Molecular Weight of RUNX1 isoforms: 20-52 kDa.

Positive Controls: HL-60 nuclear extract: sc-2147, HeLa nuclear extract: sc-2120 or U-937 nuclear extract: sc-2156.

STORAGE

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

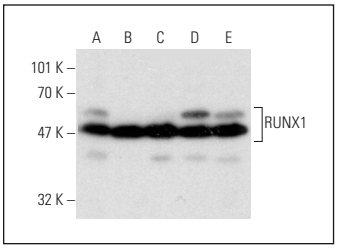
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

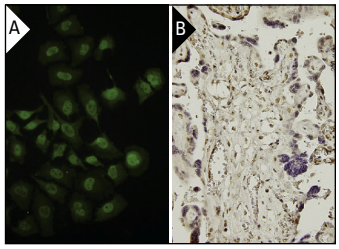
RESEARCH USE

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

DATA



RUNX1 (DW71): sc-101146. Western blot analysis of RUNX1 expression in SH-SY5Y (**A**), HeLa (**B**), HL-60 (**C**), THP-1 (**D**) and U-937 (**E**) nuclear extracts.



RUNX1 (DW71): sc-101146. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human placenta tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Kadota, M., et al. 2010. Delineating genetic alterations for tumor progression in the MCF10A series of breast cancer cell lines. PLoS ONE 5: e9201.
2. Ren, Y.R., et al. 2011. Structural analysis of the cancer-specific promoter in mesothelin and in other genes overexpressed in cancers. J. Biol. Chem. 286: 11960-11969.
3. Keita, M., et al. 2013. The RUNX1 transcription factor is expressed in serous epithelial ovarian carcinoma and contributes to cell proliferation, migration and invasion. Cell Cycle 12: 972-986.
4. Gu, X., et al. 2014. RUNX1 regulation of Pu.1 corepressor/coactivator exchange identifies specific molecular targets for leukemia differentiation therapy. J. Biol. Chem. 289: 14881-14895.
5. Lapinska-Szumczyk, S.M., et al. 2015. Immunohistochemical characterisation of molecular subtypes in endometrial cancer. Int. J. Clin. Exp. Med. 8: 21981-2190.
6. Luo, Y., et al. 2019. RUNX1 regulates osteogenic differentiation of BMSCs by inhibiting adipogenesis through Wnt/β-catenin pathway. Arch. Oral Biol. 97: 176-184.
7. Wan, X., et al. 2019. Origin of monocytes/macrophages contributing to chronic inflammation in chagas disease: SIRT1 inhibition of FAK-NFκB-dependent proliferation and proinflammatory activation of macrophages. Cells 9: 80.
8. Lu, C., et al. 2020. RUNX1 regulates TGFβ induced migration and EMT in colorectal cancer. Pathol. Res. Pract. 216: 153142.

CONJUGATES

See **RUNX1 (A-2): sc-365644** for RUNX1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.