SANTA CRUZ BIOTECHNOLOGY, INC.

PML (L-16): sc-18425

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The PML protein is a zinc-finger transcription factor expressed as three major transcription products due to alternative splicing. The gene encoding human PML maps to chromosome 15q22. The t(15;17) (q22;q11.2-q12) chromosomal translocation of the retinoic acid receptor α (RARα) gene occurs in virtually all cases of acute promyelocytic leukemia and results in the expression of a PML/RARα chimeric protein. Myeloid precursor cells expressing the PML/RARα chimera fail to differentiate and exhibit an increased growth rate consequent to diminished apoptosis. PML/RARα transforms myeloid precursors by recruiting the nuclear co-repressor (N-CoR)-histone deacetylase complex that is essential to retinoic acid-dependent myeloid differentiation. PML/RARα also recruits DNA methyltransferases in order to induce gene hypermethylation and silencing, which ultimately facilitates leukemogenesis.

REFERENCES

1. de The, H., et al. 1990. The t(15;17) translocation of acute promyelocytic leukaemia fuses the retinoic acid receptor alpha gene to a novel transcribed locus. Nature 347: 558-561.
2. Borrow, J., et al. 1990. Molecular analysis of acute promyelocytic leukemia breakpoint cluster region on chromosome 17. Science 249: 1577-1580.
3. Goddard, A.D., et al. 1991. Characterization of a zinc-finger gene disrupted by the t(15;17) in acute promyelocytic leukemia. Science 254: 1371-1374.
4. Pandolfi, P.P., et al. 1991. Structure and origin of the acute promyelocytic leukemia myl/RARα cDNA and characterization of its retinoid-binding and transactivation properties. Oncogene 6: 1285-1292.
5. Kakizuka, A., et al. 1991. Chromosomal translocation t(15;17) in human acute promyelocytic leukemia fuses RARα with a novel putative transcription factor, PML. Cell 66: 663-674.
6. Diverio, D., et al. 1992. Identification of DNA rearrangements at the retinoic acid receptor α (RARα) locus in all patients with acute promyelocytic leukemia and mapping of APL breakpoints within the RARα second intron. Blood 79: 3331-3336.

CHROMOSOMAL LOCATION

Genetic locus: Pml (mouse) mapping to 9 B.

SOURCE

PML (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PML of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-18425 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

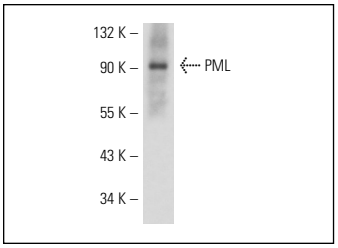
PML (L-16) is recommended for detection of PML of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 PML siRNA (m): sc-36283, PML shRNA Plasmid (m): sc-36283-SH and PML shRNA (m) Lentiviral Particles: sc-36283-V.

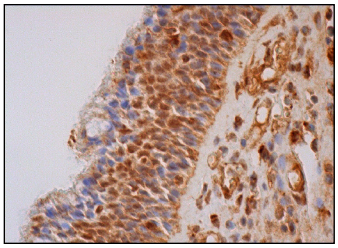
Molecular Weight of PML isoforms: 78/97 kDa.

Positive Controls: mouse cerebellum extract: sc-2403 or mouse lymph node extract: sc-364243.

DATA



PML (L-16): sc-18425. Western blot analysis of PML expression in mouse cerebellum tissue extract.



PML (L-16): sc-18425. Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing nuclear and cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

1. Drané, P., et al. 2010. The death-associated protein DAXX is a novel histone chaperone involved in the replication-independent deposition of H3.3. Genes Dev. 24: 1253-1265.

RESEARCH USE

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