

PML (C-5): sc-377303

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 15q24.1. The t(15;17) (q22;q11.2-q12) chromosomal translocation of the retinoic acid receptor α (RAR α) gene occurs in virtually all cases of acute promyelocytic leukemia and results in the expression of a PML/RAR α chimeric protein. Myeloid precursor cells expressing the PML/RAR α chimera fail to differentiate and exhibit an increased growth rate consequent to diminished apoptosis. PML/RAR α transforms myeloid precursors by recruiting the nuclear co-repressor (N-CoR)-histone deacetylase complex that is essential to retinoic acid-dependent myeloid differentiation. PML/RAR α also recruits DNA methyltransferases in order to induce gene hypermethylation and silencing, which ultimately facilitates leukemogenesis.

REFERENCES

1. Borrow, J., et al. 1990. Molecular analysis of acute promyelocytic leukemia breakpoint cluster region on chromosome 17. *Science* 249: 1577-1580.
2. De The, H., et al. 1990. The t(15;17) translocation of acute promyelocytic leukaemia fuses the retinoic acid receptor α gene to a novel transcribed locus. *Nature* 347: 558-561.

CHROMOSOMAL LOCATION

Genetic locus: PML (human) mapping to 15q24.1.

SOURCE

PML (C-5) is a mouse monoclonal antibody raised against amino acids 157-394 of PML of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377303 X, 200 μ g/0.1 ml.

APPLICATIONS

PML (C-5) is recommended for detection of all isoforms of PML of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 (h): sc-36284, PML shRNA Plasmid (h): sc-36284-SH and PML shRNA (h) Lentiviral Particles: sc-36284-V.

PML (C-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

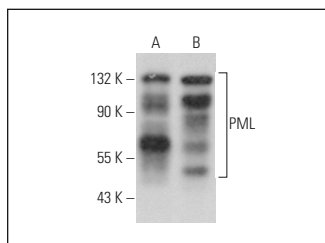
Molecular Weight of PML isoforms: 78/97 kDa.

Positive Controls: Saos-2 cell lysate: sc-2235, MDA-MB-231 cell lysate: sc-2232 or K-562 nuclear extract: sc-2130.

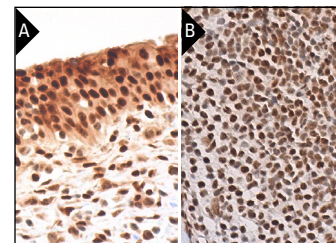
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PML (C-5): sc-377303. Western blot analysis of PML expression in Saos-2 (A) and MDA-MB-231 (B) whole cell lysates.



PML (C-5): sc-377303. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of urothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (B).

SELECT PRODUCT CITATIONS

1. Shaiken, T.E. and Opekun, A.R. 2014. Dissecting the cell to nucleus, perinucleus and cytosol. *Sci. Rep.* 4: 4923.

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.

PROTOCOLS

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



See **PML (E-11): sc-377390** for PML antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.