

PML (G-8): sc-377340

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.

CHROMOSOMAL LOCATION

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

SOURCE

PML (G-8) 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-377340 X, 200 μ g/0.1 ml.

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.

APPLICATIONS

PML (G-8) 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 (G-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

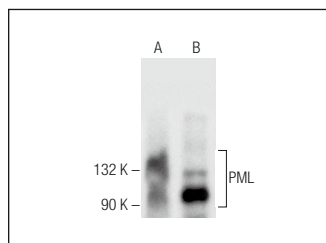
Molecular Weight of PML isoforms: 78/97 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, COLO 320DM cell lysate: sc-2226 or human lymph node extract: sc-363768.

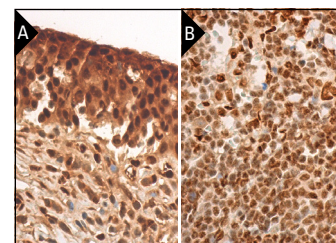
RECOMMENDED SUPPORT REAGENTS

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 (G-8): sc-377340. Western blot analysis of PML expression in K-562 nuclear extract (A) and human lymph node tissue extract (B).



PML (G-8): sc-377340. 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 and cytoplasmic staining of cells in germinal center and cells in non-germinal center (B).

SELECT PRODUCT CITATIONS

- Cilli, D., et al. 2014. Identification of the interactors of human Nibrin (NBN) and of its 26 kDa and 70 kDa fragments arising from the NBN 657del5 founder mutation. *PLoS ONE* 9: e114651.
- Hahn, A.S., et al. 2016. Viral FGARAT homolog ORF75 of rhesus monkey rhadinovirus effects proteasomal degradation of the ND10 components SP100 and PML. *J. Virol.* 90: 8013-8028.
- Sachini, N., et al. 2019. Promyelocytic leukemia protein (PML) controls breast cancer cell proliferation by modulating forkhead transcription factors. *Mol. Oncol.* 13: 1369-1387.
- Lu, Y., et al. 2020. Phase separation of TAZ compartmentalizes the transcription machinery to promote gene expression. *Nat. Cell Biol.* 22: 453-464.
- Scherer, M., et al. 2022. Dual signaling via interferon and DNA damage response elicits entrapment by giant PML nuclear bodies. *Elife* 11: e73006.



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.