SANTA CRUZ BIOTECHNOLOGY, INC.

PML (E-11): sc-377390

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 15q24.1. 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. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: PML (human) mapping to 15q24.1; Pml (mouse) mapping to 9 B.

SOURCE

PML (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 27-63 near the N-terminus of PML of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-377390 X, 200 µg/0.1 ml.

PML (E-11) is available conjugated to agarose (sc-377390 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377390 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377390 PE), fluorescein (sc-377390 FITC), Alexa Fluor® 488 (sc-377390 AF488), Alexa Fluor® 546 (sc-377390 AF546), Alexa Fluor® 594 (sc-377390 AF594) or Alexa Fluor® 647 (sc-377390 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377390 AF680) or Alexa Fluor® 790 (sc-377390 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377390 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PML (E-11) is recommended for detection of all isoforms of PML of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

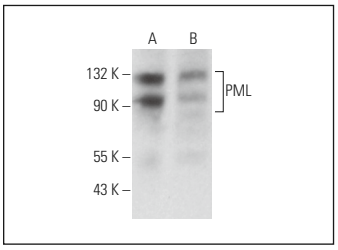
Suitable for use as control antibody for PML siRNA (h): sc-36284, PML siRNA (m): sc-36283, PML shRNA Plasmid (h): sc-36284-SH, PML shRNA Plasmid (m): sc-36283-SH, PML shRNA (h) Lentiviral Particles: sc-36284-V and PML shRNA (m) Lentiviral Particles: sc-36283-V.

PML (E-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

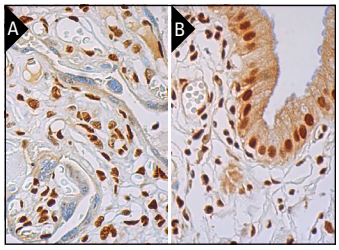
Molecular Weight of PML isoforms: 78/97 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, MDA-MB-231 cell lysate: sc-2232 or COLO 320DM cell lysate: sc-2226.

DATA



PML (E-11): sc-377390. Western blot analysis of PML expression in K-562 (**A**) and MDA-MB-231 (**B**) whole cell lysates.



PML (E-11): sc-377390. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear staining of endothelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sidik, S.M., et al. 2015. *Shigella* infection interferes with SUMOylation and increases PML-NB number. PLoS ONE 10: e0122585.
2. Hai, Y., et al. 2019. Realgar transforming solution-induced differentiation of NB4 cell by the degradation of PML/RARα partially through the ubiquitin-proteasome pathway. Arch. Pharm. Res. 42: 684-694.
3. Amato, R., et al. 2020. G-quadruplex stabilization fuels the ALT pathway in ALT-positive osteosarcoma cells. Genes 11: 304.
4. Liao, Y., et al. 2021. Manipulation of promyelocytic leukemia protein nuclear bodies by Marek's disease virus encoded US3 protein kinase. Microorganisms 9: 685.

RESEARCH USE

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