SANTA CRUZ BIOTECHNOLOGY, INC.

PLZF (D-9): sc-28319

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hypermethylated in cancer (HIC-1) was originally identified as a target of p53-induced gene expression. HIC-1 is deleted in the genetic disorder Miller-Dieker syndrome (MDS), and the expression of HIC-1 is also frequently suppressed in leukemia and various cancers due to the hypermethylation of specific DNA regions and the resulting transcriptional silencing. These and other studies indicate that HIC-1 acts as a putative tumor suppressor protein that mediates transcriptional repression. HIC-1 is ubiquitously expressed in adult tissues. Its structure is defined by five zinc fingers and an N-terminal broad complex POZ (or BTB) domain. The BTB/POZ domain mediates homomeric and heteromeric POZ-POZ interactions and is common to transcriptional regulators involved in chromatin modeling. In several BTB/POZ containing proteins, including Bcl-6 and the promyelocytic leukemia zinc-finger (PLZF) oncoprotein, this domain interacts with the SMRT/N-CoR-mSin3A HDAC complex and is directly involved in repressing and silencing gene transcription. When this domain is deleted, as with the oncogenic PLZF-RAR chimera of promyelocytic leukemias, this transcriptional repression is attenuated. Conversely, HIC-1 does not interact with components of the HDAC complex, suggesting that HIC-1-induced transcriptional repression is unassociated with the POZ/BTB domain.

REFERENCES

1. Wales, M.M., et al. 1995. p53 activates expression of HIC-1, a new candidate tumour suppressor gene on 17p13.3. Nat. Med. 1: 570-577.
2. David, G., et al. 1998. Histone deacetylase associated with mSin3A mediates repression by the acute promyelocytic leukemia-associated PLZF protein. Oncogene 16: 2549-2556.

CHROMOSOMAL LOCATION

Genetic locus: ZBTB16 (human) mapping to 11q23.2; Zbtb16 (mouse) mapping to 9 A5.3.

SOURCE

PLZF (D-9) is a mouse monoclonal antibody raised against amino acids 101-400 of PLZF 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.

PLZF (D-9) is available conjugated to agarose (sc-28319 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28319 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28319 PE), fluorescein (sc-28319 FITC), Alexa Fluor® 488 (sc-28319 AF488), Alexa Fluor® 546 (sc-28319 AF546), Alexa Fluor® 594 (sc-28319 AF594) or Alexa Fluor® 647 (sc-28319 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28319 AF680) or Alexa Fluor® 790 (sc-28319 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

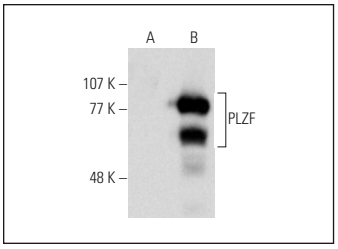
PLZF (D-9) is recommended for detection of PLZF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 PLZF siRNA (h): sc-37149, PLZF siRNA (m): sc-37150, PLZF siRNA (r): sc-156168, PLZF shRNA Plasmid (h): sc-37149-SH, PLZF shRNA Plasmid (m): sc-37150-SH, PLZF shRNA Plasmid (r): sc-156168-SH, PLZF shRNA (h) Lentiviral Particles: sc-37149-V, PLZF shRNA (m) Lentiviral Particles: sc-37150-V and PLZF shRNA (r) Lentiviral Particles: sc-156168-V.

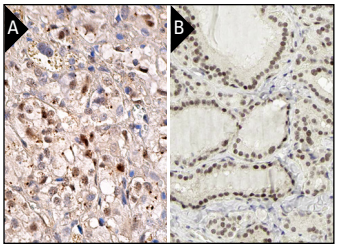
Molecular Weight of PLZF: 80-90 kDa.

Positive Controls: PLZF (h2): 293T Lysate: sc-114505, HEL 92.1.7 cell lysate: sc-2270 or TF-1 cell lysate: sc-2412.

DATA



PLZF (D-9) HRP: sc-28319 HRP. Direct western blot analysis of PLZF expression in non-transfected: sc-117752 (**A**) and human PLZF transfected: sc-114505 (**B**) 293T whole cell lysates.



PLZF (D-9): sc-28319. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear staining of subset of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Savage, A.K., et al. 2008. The transcription factor PLZF directs the effector program of the NKT cell lineage. Immunity 29: 391-403.
2. Petrie, K., et al. 2008. Retinoblastoma protein and the leukemia-associated PLZF transcription factor interact to repress target gene promoters. Oncogene 27: 5260-5266.
3. Fischer, S., et al. 2008. Biallelic loss of function of the promyelocytic leukaemia zinc finger (PLZF) gene causes severe skeletal defects and genital hypoplasia. J. Med. Genet. 45: 731-737.
4. Ota, H., et al. 2019. Identification of the X-linked germ cell specific miRNAs (XmiRs) and their functions. PLoS ONE 14: e0211739.

STORAGE

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