SANTA CRUZ BIOTECHNOLOGY, INC.

PLU-1 (7H3D7): sc-517291

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PLU-1 is a large (1,544 amino acid) nuclear protein that interacts with brain factor-1 (BF-1) and paired box 9 (PAX9), both of which are developmental transcription factors. PLU-1 belongs to the testis-cancer antigen group of proteins and is a member of the ARID family of DNA binding proteins. It is a multi-domain protein with strong transcriptional repression properties. PLU-1 shows restricted expression in adult tissues, with high expression in testis and transient expression in the pregnant mammary gland. Both the PLU-1 gene and the PLU-1 protein product are specifically upregulated in breast cancer. PLU-1 may be important in meiotic transcription because of its apparent association with chromatin.

REFERENCES

1. Lu, P.J., et al. 1999. A novel gene (PLU-1) containing highly conserved putative DNA/chromatin binding motifs is specifically up-regulated in breast cancer. J. Biol. Chem. 274: 15633-15645.
2. Madsen, B., et al. 2002. Characterisation and developmental expression of mouse Plu-1, a homologue of a human nuclear protein (PLU-1) which is specifically up-regulated in breast cancer. Mech. Dev. 119: S239-S246.
3. Tan, K., et al. 2003. Human PLU-1 has transcriptional repression properties and interacts with the developmental transcription factors BF-1 and PAX9. J. Biol. Chem. 278: 20507-20513.
4. Madsen, B., et al. 2003. PLU-1, a transcriptional repressor and putative testis-cancer antigen, has a specific expression and localisation pattern during meiosis. Chromosoma 112: 124-132.
5. Catteau, A., et al. 2004. A short region of the promoter of the breast cancer associated PLU-1 gene can regulate transcription *in vitro* and *in vivo*. Int. J. Oncol. 25: 5-16.

CHROMOSOMAL LOCATION

Genetic locus: KDM5B (human) mapping to 1q32.1; Kdm5b (mouse) mapping to 1 E4.

SOURCE

PLU-1 (7H3D7) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 231-319 of PLU-1 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.

PLU-1 (7H3D7) is available conjugated to agarose (sc-517291 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-517291 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517291 PE), fluorescein (sc-517291 FITC), Alexa Fluor® 488 (sc-517291 AF488), Alexa Fluor® 546 (sc-517291 AF546), Alexa Fluor® 594 (sc-517291 AF594) or Alexa Fluor® 647 (sc-517291 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517291 AF680) or Alexa Fluor® 790 (sc-517291 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PLU-1 (7H3D7) is recommended for detection of PLU-1 of mouse, rat and human 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)], flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

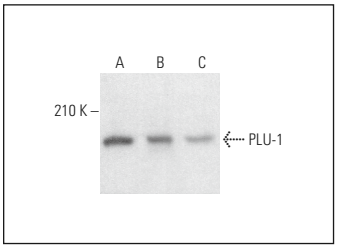
Suitable for use as control antibody for PLU-1 siRNA (h): sc-44522, PLU-1 siRNA (m): sc-44523, PLU-1 shRNA Plasmid (h): sc-44522-SH, PLU-1 shRNA Plasmid (m): sc-44523-SH, PLU-1 shRNA (h) Lentiviral Particles: sc-44522-V and PLU-1 shRNA (m) Lentiviral Particles: sc-44523-V.

Positive Controls: F9 cell lysate: sc-2245, NTERA-2 cl.D1 whole cell lysate: sc-364181 or JEG-3 whole cell lysate: sc-364255.

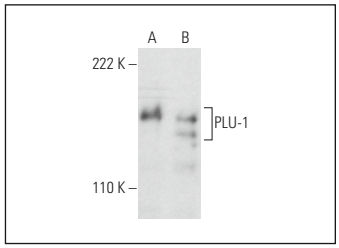
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



PLU-1 (7H3D7): sc-517291. Western blot analysis of PLU-1 expression in F9 (**A**), P19 (**B**) and Neuro-2A (**C**) whole cell lysates.



PLU-1 (7H3D7): sc-517291. Western blot analysis of PLU-1 expression in NTERA-2 cl.D1 (**A**) and JEG-3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Seefried, F., et al. 2022. Nuclear AREG affects a low-proliferative phenotype and contributes to drug resistance of melanoma. Int. J. Cancer 151: 2244-2264.
2. Hoekstra, M., et al. 2022. Characterization of KDM5 lysine demethylase family substrate preference and identification of novel substrates. J. Biochem. 173: 31-42.

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.