SANTA CRUZ BIOTECHNOLOGY, INC.

PMEPA1 (2A12): sc-293372

BACKGROUND

PMEPA1 (prostate transmembrane protein, androgen induced 1), also known as STAG1 or TMEPAI, is a 287 amino acid single-pass membrane protein that contains WW-binding motifs and localizes to the cell membrane. Expressed at high levels in prostate and ovary, PMEPA1 interacts with NEDD4 and may play a role in regulating AR (androgen receptor) levels, specifically in prostate cells. Down regulation of PMEPA1 is observed in prostate tumors, suggesting that PMEPA1 may exhibit activity as a tumor suppressor. PMEPA1 exists as multiple alternatively spliced isoforms which are encoded by a gene that maps to human chromosome 20. Comprising approximately 2% of the human genome, chromosome 20 contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome.

REFERENCES

1. Jolliffe, C.N., et al. 2000. Identification of multiple proteins expressed in murine embryos as binding partners for the WW domains of the ubiquitin-protein ligase Nedd4. Biochem. J. 351: 557-565.
2. Xu, L.L., et al. 2000. A novel androgen-regulated gene, PMEPA1, located on chromosome 20q13 exhibits high level expression in prostate. Genomics 66: 257-263.
3. Rae, F.K., et al. 2001. Characterization of a novel gene, STAG1/PMEPA1, upregulated in renal cell carcinoma and other solid tumors. Mol. Carcinog. 32: 44-53.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606564. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Brunschwig, E.B., et al. 2003. PMEPA1, a transforming growth factor-β-induced marker of terminal colonocyte differentiation whose expression is maintained in primary and metastatic colon cancer. Cancer Res. 63: 1568-1575.
6. Xu, L.L., et al. 2003. PMEPA1, an androgen-regulated NEDD4-binding protein, exhibits cell growth inhibitory function and decreased expression during prostate cancer progression. Cancer Res. 63: 4299-4304.
7. Giannini, G., et al. 2003. EGF- and cell-cycle-regulated STAG1/PMEPA1/ERG1.2 belongs to a conserved gene family and is overexpressed and amplified in breast and ovarian cancer. Mol. Carcinog. 38: 188-200.

CHROMOSOMAL LOCATION

Genetic locus: PMEPA1 (human) mapping to 20q13.31.

SOURCE

PMEPA1 (2A12) is a mouse monoclonal antibody raised against amino acids 181-280 of PMEPA1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PMEPA1 (2A12) is recommended for detection of PMEPA1 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PMEPA1 siRNA (h): sc-76176, PMEPA1 shRNA Plasmid (h): sc-76176-SH and PMEPA1 shRNA (h) Lentiviral Particles: sc-76176-V.

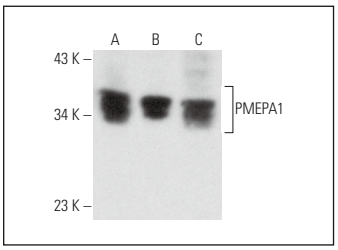
Molecular Weight of PMEPA1: 32 kDa.

Positive Controls: HT-29 whole cell lysate: sc-364232, ES-2 cell lysate: sc-24674 or Caki-1 cell lysate: sc-2224.

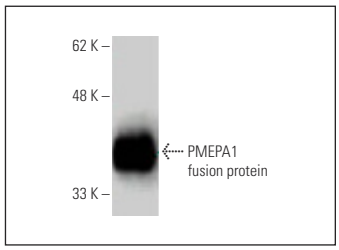
RECOMMENDED SUPPORT REAGENTS

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



PMEPA1 (2A12): sc-293372. Western blot analysis of PMEPA1 expression in HT-29 (**A**), ES-2 (**B**) and Caki-1 (**C**) whole cell lysates.



PMEPA1 (2A12): sc-293372. Western blot analysis of human recombinant PMEPA1 fusion protein.

SELECT PRODUCT CITATIONS

1. Hirata, H., et al. 2021. PMEPA1 and NEDD4 control the proton production of osteoclasts by regulating vesicular trafficking. FASEB J. 35: e21281.
2. Mun, S., et al. 2022. Transcriptome profile of membrane and extracellular matrix components in ligament-fibroblastic progenitors and cementoblasts differentiated from human periodontal ligament cells. Genes 13: 659.

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.