

PMEPA1 Antibody

Catalog # ASC11945

Product Information

Application	WB, IHC, E
Primary Accession	Q969W9
Other Accession	NP_064567 , 21361841
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	31609
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PMEPA1 antibody can be used for detection of PMEPA1 by Western blot at 1 - 2 μ g/ml. Antibody can also be used for immunohistochemistry starting at 2.5 μ g/mL.

Additional Information

Gene ID	56937
Other Names	Protein TMEPAI, Prostate transmembrane protein androgen induced 1, Solid tumor-associated 1 protein, Transmembrane prostate androgen-induced protein, PMEPA1, STAG1, TMEPAI
Target/Specificity	PMEPA1; PMEPA1 antibody is human, mouse and rat reactive. At least four isoforms are known to exist; this antibody will detect all of the isoforms.
Reconstitution & Storage	PMEPA1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	PMEPA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PMEPA1
Synonyms	STAG1, TMEPAI
Function	Functions as a negative regulator of TGF-beta signaling and thereby probably plays a role in cell proliferation, differentiation, apoptosis, motility, extracellular matrix production and immunosuppression. In the canonical TGF-beta pathway, ZFYVE9/SARA recruits the intracellular signal transducer and transcriptional modulators SMAD2 and SMAD3 to the TGF-beta receptor. Phosphorylated by the receptor, SMAD2 and SMAD3 then form a heteromeric complex with SMAD4 that translocates to the nucleus to regulate

transcription. Through interaction with SMAD2 and SMAD3, LDLRAD4 may compete with ZFYVE9 and SMAD4 and prevent propagation of the intracellular signal (PubMed:[20129061](#), PubMed:[24627487](#)). Also involved in down-regulation of the androgen receptor (AR), enhancing ubiquitination and proteasome-mediated degradation of AR, probably by recruiting NEDD4 (PubMed:[18703514](#)).

Cellular Location Early endosome membrane; Single-pass membrane protein. Golgi apparatus membrane; Single-pass membrane protein

Tissue Location Highest expression in prostate. Also expressed in ovary

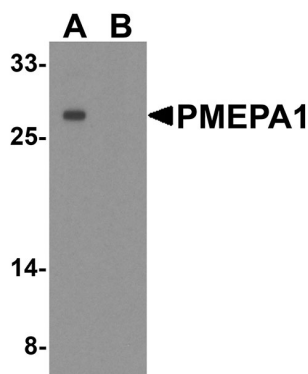
Background

The prostate transmembrane protein, androgen induced 1 (PMEPA1) protein is a transmembrane protein that contains a Smad interacting motif (SIM) (1,2). Expression of this gene is induced by androgens and transforming growth factor beta, and the encoded protein suppresses the androgen receptor and transforming growth factor beta signaling pathways through interactions with Smad proteins (3). Overexpression of this gene may play a role in multiple types of cancer (2,4).

References

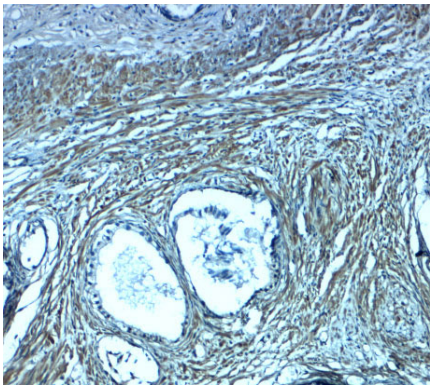
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- Rae FK, Hooper JD, Nicol DL, et al. Characterization of a novel gene, STAG1/PMEPA1, upregulated in renal cell carcinoma and other solid tumors. *Mol. Carcinog.* 2001; 32:44-53.
- Watanabe Y, Itoh S, Goto T, et al. TMEPAI, a transmembrane TGF-beta-inducible protein, sequesters Smad proteins from active participation in TGF-beta signaling. *Mol. Cell* 2010; 37:123-34.
- Vo Nguyen TT, Watanabe Y, Shiba A, et al. TMEPAI/PMEPA1 enhances tumorigenic activities in lung cancer cells. *Cancer Sci.* 2014; 105:334-41.

Images



Western blot analysis of PMEPA1 in A549 cell lysate with PMEPA1 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.

Immunohistochemistry of PMEPA1 in human prostate tissue with PMEPA1 antibody at 2.5 µg/ml.



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