

Polyclonal Antibody to PMEPA1 / STAG1 - Aff - Purified

Alternate names:	Solid tumor-associated 1 protein, TMEPA1, Transmembrane prostate androgen-induced protein
Catalog No.:	AP10352PU-N
Quantity:	0.1 mg
Concentration:	0.65-0.69 mg/ml (lot specific)
Background:	<p>The abnormal activation of the epidermal growth factor (EGF) pathway is one of the most common findings in human cancer, and a number of molecular devices of laboratory and clinical relevance have been designed to block this transduction pathway. The activation of 4 EGF receptor family members resulted in to large number of cellular events that might be regulating the metastasis and cell growth. The identification of new molecular targets working downstream of these pathways may provide new sites for therapeutic interventions for cancer diagnosis and potentially prevention and therapy. Several EGF target genes have been identified, one of them is Erg1.2 a mouse homolog of the solid tumor associated gene STAG1. Both in humans and in mice, it belongs to a new gene family that can give origin to several protein isoforms through alternative splicing and/or multiple translation starts. Sequence analysis and experimental data suggest that ERG1.2 is likely to function as a membrane-bound protein interacting with downstream signaling molecules through WW- and SH3-binding domains. Other members of this family include TMEPA1, and TPD52. PMEPA1 was identified originally as a highly androgen-inducible gene with prostate-abundant expression that was restricted to prostatic epithelial cells. PMEPA1 protein is a NEDD4 (ubiquitin-protein isopeptide ligase)-binding protein, which negatively regulates prostate cancer cell growth (1). During prostate cancer progression TMEPA1 gene transcription is reduced or lost suggesting a direct role of epigenetic events in this process. PMEPA1 negatively regulates AR protein levels in different cell culture models. Transient expression of PMEPA1 down-regulates AR protein levels and AR transcriptional targets in prostate cancer cells. Conversely, knockdown of PMEPA1 leads to elevated levels of AR protein, AR transcriptional targets (prostate-specific antigen), and increased cell cycle S phase. The TMEPA1 mutant cells are impaired in NEDD4 recruitment shows attenuated AR ubiquitination and AR protein down-regulation.</p> <p>Certain epigenetic cascade events contributes to the selective growth advantage during tumor progression. During prostate cancer progression the TMEPA1 gene is reduced or lost as a result of DNA methylation of SP1 sites within the PMEPA1 promoter may also contribute to the repression of PMEPA1 gene (2). The TMEPA1 negatively regulates the stability of AR protein by enhancing AR ubiquitination and proteosome-mediated degradation through NEDD4 and the TMEPA1-AR degradation pathway may represent a new androgen-dependent mechanism for regulating AR levels in prostate epithelial cells. The decrease in TMEPA1 in prostate cancers may lead to an increase in AR function and strengthen the biological role of TMEPA1 in prostate cancers. TMEPA1 is a 254 amino acid (apparent MW 30-31kDa) protein highly expressed in prostate cells.</p>

Uniprot ID:	Q969W9
NCBI:	NP_064567
GeneID:	56937
Host / Isotype:	Rabbit / IgG
Immunogen:	Purified PMEPA1 protein which was emulsified with adjuvants to achieve the desired antigenicity.
Format:	State: Liquid purified Ig fraction Purification: Affinity Chromatography using immobilized antigen Buffer System: Stabilization buffer
Applications:	ELISA: 1/20,000-1/50,000. Dot Blot: 1/20,000-1/50,000. Western Blot: 1/500-1/1000. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody detects a band of approximately 31 kDa.
Species Reactivity:	Tested: Human.
Add. Information:	Predicted Molecular Weight: 31 kDa
Storage:	Store the antibody undiluted (in aliquots) at -20°C. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
General Readings:	1. Li H, Xu LL, Masuda K, Raymundo E, McLeod DG, Dobi A, et al. A feedback loop between the androgen receptor and a NEDD4-binding protein, PMEPA1, in prostate cancer cells. J Biol Chem. 2008 Oct 24;283(43):28988-95. doi: 10.1074/jbc.M710528200. Epub 2008 Aug 14. PubMed PMID: 18703514. 2. Richter E, Masuda K, Cook C, Ehrich M, Tadese AY, Li H, et al. A role for DNA methylation in regulating the growth suppressor PMEPA1 gene in prostate cancer. Epigenetics. 2007 Apr-Jun;2(2):100-9. Epub 2006 Dec 27. PubMed PMID: 18174752.