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EMP2 Rabbit pAb

Catalog # AP96483

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P54851
Other Accession	P54851
Predicted	Rat, Pig, Human, Mouse, Rabbit, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	19199
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EMP2
Epitope Specificity	65-167/167
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the PMP-22/EMP/MP20 family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	EMP-2 is a 167 amino acid multi-pass membrane protein that contains four-transmembrane domains and belongs to the GAS3/PMP22 (growth arrest-specific-3/peripheral myelin protein-22) family. Localized to lipid raft domains in the plasma membrane, EMP-2 regulates the expression of several target proteins and is necessary for blastocyst implantation in the uterine endometrium. Specifically, EMP-2 mediates blastocyst implantation by controlling the cell membrane expression of MHC and glycosylphosphatidylinositol-anchored proteins, as well as Integrins and caveolin-1. In adult tissues, EMP-2 is expressed in heart, lung, ovary and intestine, while fetal expression is highest in kidney, brain and liver. Overexpression of EMP-2 is associated with endometrial adenocarcinoma, suggesting a possible role for EMP-2 in tumorigenesis.

Additional Information

Gene ID	2013
Other Names	XMP; EMP2_HUMAN; EMP2; EMP-2; Protein XMP; EMP2_MOUSE; epithelial membrane protein 2
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	EMP2 (HGNC:3334)
Function	Functions as a key regulator of cell membrane composition by regulating protein surface expression. Also, plays a role in regulation of processes including cell migration, cell proliferation, cell contraction and cell adhesion. Regulates transepithelial migration of neutrophils into the alveolar lumen, potentially via mediation of cell surface expression of adhesion markers and lipid raft formation (By similarity). Negatively regulates caveolae formation by reducing CAV1 expression and CAV1 amount by increasing lysosomal degradation (PubMed:24814193). Facilitates surface trafficking and formation of lipid rafts bearing GPI-anchor proteins (By similarity). Regulates surface expression of MHC1 and ICAM1 proteins increasing susceptibility to T-cell mediated cytotoxicity (By similarity). Regulates the plasma membrane expression of the integrin heterodimers ITGA6-ITGB1, ITGA5- ITGB3 and ITGA5-ITGB1 resulting in modulation of cell-matrix adhesion (PubMed:16216233). Also regulates many processes through PTK2. Regulates blood vessel endothelial cell migration and angiogenesis by regulating VEGF protein expression through PTK2 activation (PubMed:23439602). Regulates cell contraction through PTK2 activation (PubMed:22728127). Regulates focal adhesion density, F-actin conformation and cell adhesion capacity through interaction with PTK2 (PubMed:19494199). Positively regulates cell proliferation (PubMed:24814193). Plays a role during cell death and cell blebbing (PubMed:12107182). Promotes angiogenesis and vasculogenesis through induction of VEGFA via a HIF1A-dependent pathway (PubMed:23334331). Also plays a role in embryo implantation by regulating surface trafficking of integrin heterodimer ITGA5-ITGB3 (PubMed:16487956). Plays a role in placental angiogenesis and uterine natural killer cell regulation at the maternal-fetal placental interface, however not required in the maternal tissues for a viable pregnancy (By similarity). Involved in the early stages of embryogenic development and cardiogenesis, potentially via regulation of epithelial-mesenchymal transition timing (By similarity). May play a role in glomerular filtration (By similarity).
Cellular Location	Golgi apparatus membrane; Multi-pass membrane protein. Cell membrane. Apical cell membrane {ECO:0000250|UniProtKB:O88662}. Membrane raft {ECO:0000250|UniProtKB:O88662}. Cytoplasm {ECO:0000250|UniProtKB:O88662}. Nucleus {ECO:0000250|UniProtKB:Q66HH2} Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:O88662} Note=Localizes in cytoplasm, foot processes and cell bodies of podocytes and nucleus of endothelial cells of kidney. Localizes to the apical cell surface in the luminal epithelium and glandular epithelium Colocalized with ITGB1 and GPI-anchor proteins on plasma membrane {ECO:0000250|UniProtKB:O88662, ECO:0000250|UniProtKB:Q66HH2}
Tissue Location	Expressed in ciliary body epithelia, sclera, cornea, and retinal pigment epithelium (at protein level) (PubMed:12710941). Expressed in lung and endometrial tissue; expression is particularly abundant in secretory endometrium (at protein level) (PubMed:12710941). Expressed in placental villous syncytiotrophoblasts and cytotrophoblasts and on the membrane of interstitial trophoblasts (at protein level) (PubMed:28295343).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.