

EMP-2 (M-21): sc-101949

BACKGROUND

EMP-2 (epithelial membrane protein 2), also known as XMP, 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. Over-expression of EMP-2 is associated with endometrial adenocarcinoma, suggesting a possible role for EMP-2 in tumorigenesis.

REFERENCES

1. Taylor, V. and Suter, U. 1996. Epithelial membrane protein-2 and epithelial membrane protein-3: two novel members of the peripheral myelin protein 22 gene family. *Gene* 175: 115-120.
2. Ben-Porath, I. and Benvenisty, N. 1996. Characterization of a tumor-associated gene, a member of a novel family of genes encoding membrane glycoproteins. *Gene* 183: 69-75.
3. Liehr, T., et al. 1999. Regional localization of the human epithelial membrane protein genes 1, 2, and 3 (EMP-1, EMP-2, EMP-3) to 12p12.3, 16p13.2, and 19q13.3. *Genomics* 58: 106-108.
4. Wadehra, M., et al. 2003. Epithelial membrane protein-2 is expressed in discrete anatomical regions of the eye. *Exp. Mol. Pathol.* 74: 106-112.
5. Wadehra, M., et al. 2005. Epithelial membrane protein-2 regulates surface expression of $\alpha v \beta 3$ integrin in the endometrium. *Dev. Biol.* 287: 336-345.
6. Wadehra, M., et al. 2006. Expression of epithelial membrane protein-2 is associated with endometrial adenocarcinoma of unfavorable outcome. *Cancer* 107: 90-98.
7. Forbes, A., et al. 2007. The tetraspan protein EMP-2 regulates expression of caveolin-1. *J. Biol. Chem.* 282: 26542-26551.
8. Shimazaki, K., et al. 2007. Epithelial membrane protein 2 modulates infectivity of *Chlamydia muridarum* (MoPn). *Microbes Infect.* 9: 1003-1010.
9. Morales, S.A., et al. 2008. Epithelial membrane protein 2 (EMP-2) controls collagen gel contraction in ARPE-19 cells by modulating fak activation. *Invest. Ophthalmol. Vis. Sci.* E-published.

CHROMOSOMAL LOCATION

Genetic locus: EMP2 (human) mapping to 16p13.13.

SOURCE

EMP-2 (M-21) is a purified rabbit polyclonal antibody raised against EMP-2 of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

EMP-2 (M-21) is recommended for detection of EMP-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for EMP-2 siRNA (h): sc-93419, EMP-2 shRNA Plasmid (h): sc-93419-SH and EMP-2 shRNA (h) Lentiviral Particles: sc-93419-V.

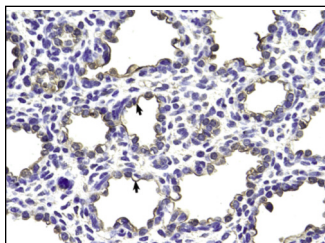
Molecular Weight of EMP-2: 18 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

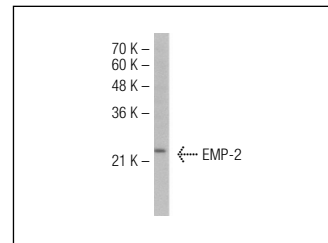
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



EMP-2 (M-21): sc-101949. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining.



EMP-2 (M-21): sc-101949. Western blot analysis of EMP-2 expression in Jurkat whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.