

# TMEM97 (F-12): sc-139192

## BACKGROUND

MAC30, also known as TMEM97 (transmembrane protein 97), is a 176 amino acid multi-pass membrane protein that is widely expressed in normal tissues and is upregulated in pancreatic, renal, breast, colon and meningioma cancers, suggesting a role in tumorigenesis. The gene encoding MAC30 maps to human chromosome 17q11.2, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

## REFERENCES

1. Kaye, H., et al. 2004. Expression analysis of MAC30 in human pancreatic cancer and tumors of the gastrointestinal tract. *Histol. Histopathol.* 19: 1021-1031.
2. Zhang, Z.Y., et al. 2006. Expression of MAC30 in rectal cancers with or without preoperative radiotherapy. *Oncology* 71: 259-265.
3. Nussbaum, R., et al. 2006-2007. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. *Breast Dis.* 27: 21-50.
4. Wilcox, C.B., et al. 2007. Coordinate upregulation of TMEM97 and cholesterol biosynthesis genes in normal ovarian surface epithelial cells treated with progesterone: implications for pathogenesis of ovarian cancer. *BMC Cancer* 7: 223.
5. Ropolo, A., et al. 2007. The pancreatitis-induced vacuole membrane protein 1 triggers autophagy in mammalian cells. *J. Biol. Chem.* 282: 37124-37133.
6. Tai, Y.C., et al. 2007. Breast cancer risk among male BRCA1 and BRCA2 mutation carriers. *J. Natl. Cancer Inst.* 99: 1811-1814.
7. Yan, J., et al. 2007. BLIMP1 regulates cell growth through repression of p53 transcription. *Proc. Natl. Acad. Sci. USA* 104: 1841-1846.
8. Moparthi, S.B., et al. 2007. Expression of MAC30 protein is related to survival and biological variables in primary and metastatic colorectal cancers. *Int. J. Oncol.* 30: 91-95.

## CHROMOSOMAL LOCATION

Genetic locus: *Tmem97* (mouse) mapping to 11 B5.

## SOURCE

TMEM97 (F-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an extracellular domain of TMEM97 of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139192 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TMEM97 (F-12) is recommended for detection of TMEM97 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other TMEM family members.

Suitable for use as control antibody for TMEM97 siRNA (m): sc-154514, TMEM97 shRNA Plasmid (m): sc-154514-SH and TMEM97 shRNA (m) Lentiviral Particles: sc-154514-V.

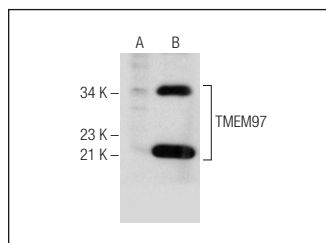
Molecular Weight of TMEM97: 21 kDa.

Positive Controls: TMEM97 (m): 293T Lysate: sc-126136 or mouse pancreas tissue extract.

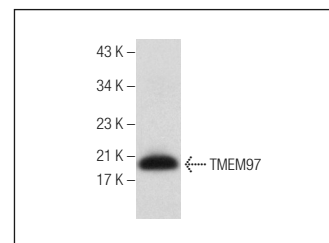
## RECOMMENDED SECONDARY REAGENTS

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.

## DATA



TMEM97 (F-12): sc-139192. Western blot analysis of TMEM97 expression in non-transfected: sc-117752 (A) and mouse TMEM97 transfected: sc-126136 (B) 293T whole cell lysates.



TMEM97 (F-12): sc-139192. Western blot analysis of TMEM97 expression in mouse pancreas tissue extract.

## RESEARCH USE

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