Revision 4

Store at -20C

#30874

TPBG/5T4 (E4T8Q) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, FC-FP	H	Endogenous	75	Rabbit IgG	#Q13641	7162

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Flow Cytometry (Fixed/Permeabilized)	1:800 - 1:3200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

TPBG/5T4 (E4T8Q) Rabbit mAb recognizes endogenous levels of total TPBG/5T4 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding His140 of human TPBG/5T4 protein.

Background

Trophoblast glycoprotein (TPBG/5T4) is a type I transmembrane glycoprotein that is normally expressed by trophoblast cells of the placenta with a very limited expression pattern in normal adult tissues (1,2). The extracellular domain of TPBG is extensively glycosylated and contains multiple leucine-rich repeats while its cytoplasmic domain consists of a PDZ domain-binding motif, which is important for linking TPBG to intracellular signaling networks involved in the regulation of cell motility and adhesion (3,4). Research studies have shown that cell surface expression of TPBG plays a critical role in modulating signaling cascades that drive cell adhesion, morphology, and motility processes that are fundamental for normal progression of embryogenesis (5-7).Research studies have demonstrated that TPBG is aberrantly overexpressed in numerous types of solid tumors (8) and functions to promote enhanced tumor cell motility and metastasis (9,10). In some tumors, such as NSCLC and HNSCC, TPBG has been identified as a novel marker of tumor-initiating cells (11,12). The observed differential expression of TPBG by normal tissue versus tumor tissue has been exploited by multiple immunotherapeutic agents that are currently being evaluated for targeting of multiple types of solid tumors (13).

Background References

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5. Barrow, K.M. et al. (2005) *Dev Dyn* 233, 1535-45.
6. Ward, C.M. et al. (2003) *J Cell Sci* 116, 4533-42.
7. Ward, C.M. et al. (2006) *Exp Cell Res* 312, 1713-26.
8. Southall, P.J. et al. (1990) *Br J Cancer* 61, 89-95.
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11. Damelin, M. et al. (2011) *Cancer Res* 71, 4236-46.
12. Kerk, S.A. et al. (2017) *Clin Cancer Res* 23, 2516-2527.
13. Stern, P.L. and Harrop, R. (2017) *Cancer Immunol Immunother* 66, 415-426.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human

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