

TPBG (P-14): sc-162342

BACKGROUND

TPBG (trophoblast glycoprotein), also known as 5T4, M6P1 or 5T4AG, is a 420 amino acid single-pass type I membrane protein expressed by all types of trophoblasts as early as 9 weeks of development. TPBG contains an N-terminal putative signal sequence, a 310-residue extracellular region, a membrane anchorage domain and a 44-amino acid cytoplasmic tail with a potential phosphorylation site. The extracellular region has seven potential N-glycosylation sites and seven leucine-rich repeats, which are located in two regions separated by a hydrophilic stretch. Suggested to be involved in cell adhesion, TPBG may also be associated with tumor growth and progression.

REFERENCES

1. Myers, K.A., et al. 1994. Isolation of a cDNA encoding 5T4 oncofetal trophoblast glycoprotein. An antigen associated with metastasis contains leucine-rich repeats. *J. Biol. Chem.* 269: 9319-9324.
2. King, K.W., et al. 1999. Organisation of the mouse and human 5T4 oncofetal leucine-rich glycoprotein genes and expression in foetal and adult murine tissues. *Biochim. Biophys. Acta* 1445: 257-270.
3. Shaw, D.M., et al. 2002. Glycosylation and epitope mapping of the 5T4 glycoprotein oncofoetal antigen. *Biochem. J.* 363: 137-145.
4. Smyth, L.J., et al. 2006. CD8 T-cell recognition of human 5T4 oncofetal antigen. *Int. J. Cancer* 119: 1638-1647.
5. Okazaki, S., et al. 2007. Placenta-derived, cellular messenger RNA expression in the maternal blood of preeclamptic women. *Obstet. Gynecol.* 110: 1130-1136.
6. Shingler, W.H., et al. 2008. Identification and functional validation of MHC class I epitopes in the tumor-associated antigen 5T4. *Int. Immunol.* 20: 1057-1066.
7. Amato, R.J., et al. 2008. Vaccination of prostate cancer patients with modified vaccinia ankara delivering the tumor antigen 5T4 (TroVax): a phase 2 trial. *J. Immunother.* 31: 577-585.
8. Elkord, E., Dangoor, A., et al. 2008. An MVA-based vaccine targeting the oncofetal antigen 5T4 in patients undergoing surgical resection of colorectal cancer liver metastases. *J. Immunother.* 31: 820-829.
9. Kaufman, H.L., et al. 2009. Phase II trial of Modified Vaccinia Ankara (MVA) virus expressing 5T4 and high dose Interleukin-2 (IL-2) in patients with metastatic renal cell carcinoma. *J. Transl. Med.* 7: 2.

CHROMOSOMAL LOCATION

Genetic locus: TPBG (human) mapping to 6q14.1; Tpbg (mouse) mapping to 9 E3.1.

SOURCE

TPBG (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of TPBG of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162342 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TPBG (P-14) is recommended for detection of TPBG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TPBG (P-14) is also recommended for detection of TPBG in additional species, including canine.

Suitable for use as control antibody for TPBG siRNA (h): sc-95431, TPBG siRNA (m): sc-154566, TPBG shRNA Plasmid (h): sc-95431-SH, TPBG shRNA Plasmid (m): sc-154566-SH, TPBG shRNA (h) Lentiviral Particles: sc-95431-V and TPBG shRNA (m) Lentiviral Particles: sc-154566-V.

Molecular Weight of TPBG: 46 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.