

TPBG siRNA (m): sc-154566

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 nine 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 oncofetal 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.

CHROMOSOMAL LOCATION

Genetic locus: Tpbpg (mouse) mapping to 9 E3.1.

PRODUCT

TPBG siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TPBG shRNA Plasmid (m): sc-154566-SH and TPBG shRNA (m) Lentiviral Particles: sc-154566-V as alternate gene silencing products.

For independent verification of TPBG (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154566A, sc-154566B and sc-154566C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TPBG siRNA (m) is recommended for the inhibition of TPBG expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TPBG gene expression knockdown using RT-PCR Primer: TPBG (m)-PR: sc-154566-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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