

Active Recombinant Human TPBG protein, His/Avi-tagged, Biotinylated

Cat. No. TPBG-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human TPBG(Ser31-Ser355) protein, fused to His/Avi tag at the C-terminus, was expressed in CHO cells .
Species	Human
Source	CHO
ProteinLength	Ser31-Ser355
Description	TPBG, also known as Trophoblast glycoprotein and Wnt-activated inhibitory factor 1 (WAIF1), is a single-pass transmembrane protein which may function as an inhibitor of Wnt/beta-catenin signaling (1). Distinct regions on the 5T4 ectodomain which contains eight leucine-rich repeats are thought to antagonize Wnt signaling (2). 5T4 has limited expression in normal adult tissues and in some solid tumors, while expression is elevated in human carcinomas which have been correlated with poor survival and prognosis (3-5). Human 5T4 is a 420 amino acid (aa) protein that includes a 31 aa signal peptide, a 324 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 44 aa cytoplasmic tail. Within the ECD, human 5T4 shares 78% and 77% aa sequence identity with mouse and rat 5T4, respectively. It has been identified that TIP-2/GIPC, a common interacting protein involved in cancer, interacts with 5T4 through its PDZ domain (6). 5T4 inhibits Wnt/β-catenin signaling by binding to LRP6 and inhibit Wnt-induced LRP6 internalization into endocytic vesicles

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(1). Conversely, 5T4 can activate noncanonical Wnt signaling through DKK1 (1).
In addition to LRP6, in-house data indicates 5T4 can also interact with Frizzled-8.

Predicted N Terminal	Ser31
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA.
Molecular Mass	40-80 kDa, under reducing conditions
Endotoxin	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Applications	Bioactivity
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 400 µg/mL in PBS.
Conjugation	Biotin

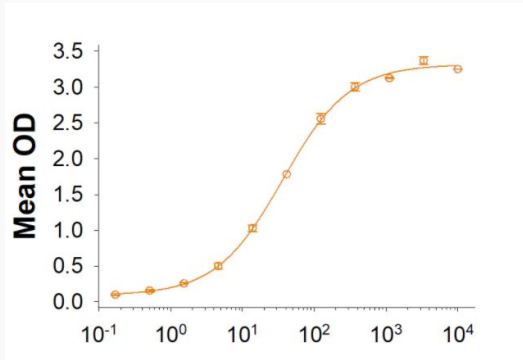
GENE INFORMATION

Gene Name	TPBG trophoblast glycoprotein [Homo sapiens]
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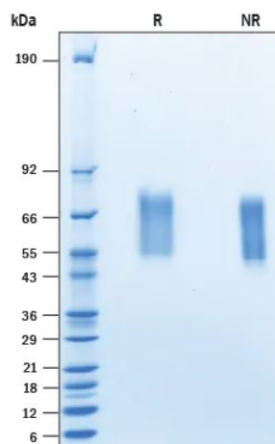
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Official Symbol	TPBG
Synonyms	TPBG; trophoblast glycoprotein; 5T4; 5T4 AG; 5T4 oncofetal antigen; 5T4 oncotrophoblast glycoprotein; 5T4 oncofetal trophoblast glycoprotein; M6P1; 5T4AG;
Gene ID	7162
mRNA Refseq	NM_001166392
Protein Refseq	NP_001159864
MIM	190920
UniProt ID	Q13641
Binding Activity	

SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.