

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived human 5T4 protein			
	Human 5T4 (Ser31-Ser355) Accession # Q13641.1	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)	Avi-tag
	N-terminus		C-terminus	
<b>N-terminal Sequence Analysis</b>	Ser31			
<b>Structure / Form</b>	Disulfide-linked homodimer, biotinylated via Avi-tag			
<b>Predicted Molecular Mass</b>	64 kDa			

**SPECIFICATIONS**

<b>SDS-PAGE</b>	90-105 kDa, under reducing conditions
<b>Activity</b>	<p>Measured by its binding ability in a functional ELISA. When Human 5T4 Antibody (Catalog # <a href="#">MAB49751</a>) is immobilized at 0.5 µg/mL (100 µL/well), Biotinylated Recombinant Human 5T4 Fc Chimera Avi-tag binds with an ED<sub>50</sub> of 0.45-3.60 ng/mL.</p> <p>Measured by its binding ability in a functional ELISA. When Recombinant Human Frizzled-8 Fc Chimera (Catalog # <a href="#">6129-FZ</a>) is immobilized at 5 µg/mL (100 µL/well), Biotinylated Recombinant Human 5T4 Fc Chimera Avi-tag (Catalog # AVI4975) binds with an ED<sub>50</sub> of 5.00-40.0 µg/mL.</p>
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**

**Binding Activity**

**Biotinylated Recombinant Human 5T4 Fc Chimera Avi-tag Protein Binding Activity.** When Human 5T4 Antibody (Catalog # [MAB49751](#)) is immobilized at 0.5 µg/mL (100 µL/well), Biotinylated Recombinant Human 5T4 Fc Chimera Avi-tag (Catalog # AVI4975) binds with an ED<sub>50</sub> of 0.45-3.60 ng/mL.

**SDS-PAGE**

**Biotinylated Recombinant Human 5T4 Fc Chimera Avi-tag Protein SDS-PAGE.** 2 µg/lane of Biotinylated Recombinant Human 5T4 Fc Chimera Avi-tag (Catalog # AVI4975) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 90-105 kDa and 180-210 kDa, respectively.

**BACKGROUND**

5T4, 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). Mature 5T4 consists of an extracellular domain (ECD) with eight leucine-rich repeats thought to antagonize Wnt signaling, a single transmembrane segment, and a short cytoplasmic tail with a PDZ-binding motif (2). Within the ECD, human 5T4 shares 78% and 77% amino acid sequence identity with mouse and rat 5T4, respectively. 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). It has been identified that 5T4 interacts with TIP-2/GIPC, a common interacting protein involved in cancer, through its PDZ domain (6). 5T4 inhibits Wnt/ beta -catenin signaling by binding to LRP6 and inhibits Wnt-induced LRP6 internalization into endocytic vesicles (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. Our Avi-tag Biotinylated 5T4 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

**References:**

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2. Zhao, Y. *et al.* (2014) *Structure.* **22**:612.
3. Starzynska, T. *et al.* (1994) *Br. J. Cancer.* **69**:899.
4. Naganuma, H. *et al.* (2002) *Anticancer Res.* **22**:1033.
5. Harris, J.L. *et al.* (2018) *Int. J. Biochem. Cell Biol.* **99**:28.
6. Awan, A. *et al.* (2002) *BBRC* **290**:1030.