

Active Recombinant Human VSIG4 protein, Fc/Avi-tagged, Biotinylated

Cat. No. VSIG4-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human VSIG4(Arg20-Pro283) protein, fused to Fc/Avi tag at the C-terminus, was expressed in HEK293 cells .
Species	Human
Source	HEK293
ProteinLength	Arg20-Pro283
Description	V-set and immunoglobulin domain containing 4 (VSIG4), also known as CR1g and Z39IG, is a type I transmembrane protein of the B7 family and complement receptor of the immunoglobulin superfamily. Human VSIG4 consists of an extracellular domain (ECD) containing a V-type and a C2-type Ig domain, a transmembrane domain and a cytoplasmic domain (3). Interestingly, VSIG4 in several animals, including mouse and rat, lack the C2-type Ig domain present in human VSIG4. Within the IgV domain, mature human VSIG4 shares 80% and 78% amino acid identity with mouse and rat VSIG4, respectively. Alternative splicing results in numerous isoforms lacking all or part of the cytoplasmic domain, the C2-type Ig domain and/or the transmembrane domain. VSIG4 is specifically expressed on macrophages in the thymic medulla, peritoneum, alveoli, synovia, adipose and heart, liver Kupffer cells, placental Hofbauer cells, and atherosclerotic foam cells (1-8). It is absent on infiltrating macrophages (8). VSIG4 is a complement receptor that binds C3b and iC3b fragments, internalizes them to recycling endosomes, and is recycled to the cell

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surface (4, 5). It contributes significantly to innate immunity by binding and phagocytosis of complement-opsonized invading pathogens (4, 7, 9). Binding of either native or recombinant soluble VSIG4 to C3b inhibits complement amplification through the alternative, but not classical, pathway (9, 10). VSIG4 is also a negative regulator of mouse and human T cell activation (2). Although VSIG4 engagement may activate NF kappa B and thus be pro-inflammatory in some cases, many of its activities are important in resolving, rather than initiating, inflammation (1, 2, 6, 9, 10). VSIG4 expression has been implicated in lung cancer development and associated with poor prognosis of high grade glioma (11, 12). Our Avi-tag Biotinylated Recombinant VSIG4 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.

Predicted N Terminal	Arg20
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	The biotin to protein ratio is greater than 0.7 as determined by the HABA assay. Measured by its binding ability in a functional ELISA. When Human iC3b is Immobilized at 2.5 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human VSIG4 Fc Chimera Avi-tag that produces 50% optimal binding response is found to be approximately 5-40 ng/mL.
Molecular Mass	65-85 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.

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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 200 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

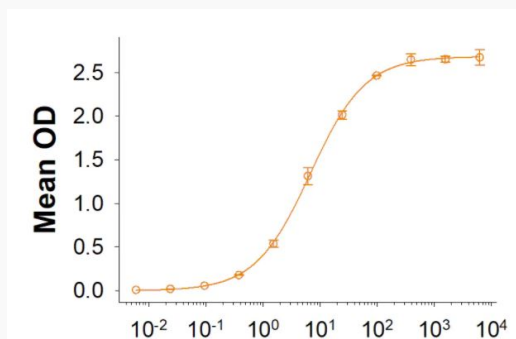
Gene Name	VSIG4 V-set and immunoglobulin domain containing 4 [Homo sapiens]
Official Symbol	VSIG4
Synonyms	VSIG4; V-set and immunoglobulin domain containing 4; V-set and immunoglobulin domain-containing protein 4; Z39IG; protein Z39Ig; Ig superfamily protein; complement receptor of the immunoglobulin superfamily; CRIG;
Gene ID	11326
mRNA Refseq	NM_001100431
Protein Refseq	NP_001093901
MIM	300353
UniProt ID	Q9Y279

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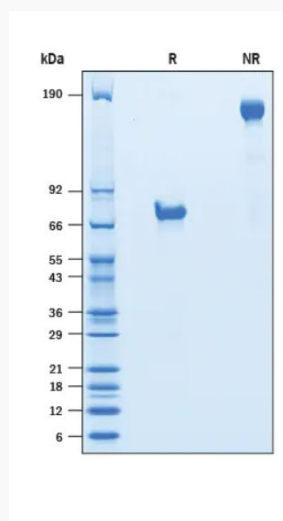
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Binding Activity



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.