

# Active Recombinant Human VTCN1 protein, Fc-tagged, Biotinylated

**Cat. No.** VTCN1-051H    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

Biotinylated Recombinant Human VTCN1(Phe29-Ala258) protein, fused to Fc tag at the C-terminus, was expressed in HEK293 cells .

### Species

Human

### Source

HEK293

### ProteinLength

Phe29-Ala258

### Description

VTCN1 is a 5080 kDa glycosylated member of the B7 family of immunomodulatory proteins (1, 2). Mature human B7H4 consists of a 235 amino acid (aa) extracellular domain (ECD) with one Iglike Vset domain and one Iglike C2set domain, a 21 aa transmembrane segment, and a 2 aa cytoplasmic tail (35). Within the ECD, human B7H4 shares 90% aa sequence identity with mouse and rat B7H4. It shares 22% 28% aa sequence identity with human B71, B72, B7H1, B7H2, B7H3, and PDL2. Alternate splicing of human B7H4 generates an additional isoform that lacks the first Iglike domain. B7H4 is expressed on the surface of activated lymphocytes, macrophages, monocytes, dendritic cells, epithelial cells, and bone marrowderived mesenchymal stem cells (48). Its binding to activated T cells dampens T cell responses and induces cell cycle arrest in the T cell (35). Reverse signaling can induce either cell cycle arrest or apoptosis in the B7H4 expressing cell (9, 10). B7H4 is upregulated in several carcinomas in correlation with tumor progression and metastasis (2, 7, 11, 12). A soluble form of B7H4 is elevated in the serum of ovarian

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cancer, renal cell carcinoma, and rheumatoid arthritis patients, also in correlation with advanced disease status (1315). Soluble B7H4 functions as a decoy molecule that blocks the inhibitory influence of B7H4 on immune activation (15). Despite evidence for the involvement of B7H4 in immune regulation, mice deficient in its expression do not show significant immune deficiencies, suggesting compensation by other molecules in vivo (16).

<b>Predicted N Terminal</b>	Phe29
<b>Form</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
<b>Bio-activity</b>	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion in human T lymphocytes. The ED50 for this effect is 0.1-0.5 µg/MI.
<b>Molecular Mass</b>	81-94 kDa and 170 - 195 kDa, reducing conditions
<b>Endotoxin</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>Applications</b>	Bioactivity
<b>Storage</b>	12 months from date of receipt, ≤ -20 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, ≤ -20 °C under sterile conditions after reconstitution.
<b>Reconstitution</b>	Reconstitute at 100 µg/mL in PBS.
<b>Conjugation</b>	Biotin

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## GENE INFORMATION

<b>Gene Name</b>	VTCN1 V-set domain containing T cell activation inhibitor 1 [ Homo sapiens ]
<b>Official Symbol</b>	VTCN1
<b>Synonyms</b>	VTCN1; V-set domain containing T cell activation inhibitor 1; V-set domain-containing T-cell activation inhibitor 1; B7 family member; H4; B7 superfamily member 1; B7 H4; B7H4; B7S1; B7X; FLJ22418; B7 family member, H4; T cell costimulatory molecule B7x; T-cell costimulatory molecule B7x; immune costimulatory protein B7-H4; B7-H4; B7h.5; VCTN1; PRO1291; RP11-229A19.4;
<b>Gene ID</b>	79679
<b>mRNA Refseq</b>	NM_001253849
<b>Protein Refseq</b>	NP_001240778
<b>MIM</b>	608162
<b>UniProt ID</b>	Q7Z7D3

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