



**LD Biopharma, Inc.**  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human VTCN1 Protein  
**Catalog Number:** hRP-1681  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human V-set domain- containing T cell activation inhibitor 1 (VTCN1) gene encodes a protein belonging to the B7 costimulatory protein family. Proteins in this family are present on the surface of antigen-presenting cells and interact with ligand bound to receptors on the surface of T cells. Studies have shown that high levels of the encoded protein has been correlated with tumor progression. Multiple transcript variants encoding different isoforms have been found for this gene. Changes of VTCN1 expression in various tissues have been linked in various immune diseases and tumor progress.

Human VTCN1 extracellular domain cDNA (25-259aa, Isoform-1, derived from BC074729) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (33aa) fusion at its N-terminal. This protein was expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** VTCN1 (B7-H4; B7h.5; B7S1; PRO1291)  
**Accession Number:** NP\_078902  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References

Vanderstraeten,A., et al., *Mapping the immunosuppressive environment in uterine tumors: implications for immunotherapy*. Cancer Immunol. Immunother. 63 (6), 545-557 (2014)

Albers HM, et al., *Genetic variation in VTCN1 (B7-H4) is associated with course of*



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*disease in juvenile idiopathic arthritis. Ann. Rheum. Dis. 73 (6), 1198-1201 (2014)*

Cheung SS, et al., *B7-H4 expression in normal and diseased human islet beta cells. Pancreas 43 (1), 128-134 (2014)*

Tsiaousidou A, et al., *B7H4, HSP27 and DJ-1 molecular markers as prognostic factors in pancreatic cancer. Pancreatology 13 (6), 564-569 (2013)*

Ozgoz A, et al., *An investigation of the effects of FGFR2 and B7-H4 polymorphisms in breast cancer. J Cancer Res Ther 9 (3), 370-375 (2013)*

## **Applications**

1. May be used for in vitro VTCN1 mediated T cell differentiation regulation study with this protein as either soluble factor or coating matrix protein.
2. May be used for mapping VTCN1 protein-protein interaction assay.
3. Potential biomarker protein for clinical applications such as monitoring pancreatic cancer progression.
4. As antigen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGEFLIIGFGISGRHSITVTTVASAGNIGEDGILSCTFEP  
DIKLSDIVIQWLKEGVLGLVHEFKEGKDELSEQDEMFRGRTAVFADQVIVGNASLRLKNVQLTD  
AGTYKCYIITSKKGKNANLEYKTGAFSMPEVNVNDYNASSETLRCEAPRWFPPQPTVVWASQVDQG  
ANFSEVSNTSFELENSENVTKVVSVLYNVTINNTYSCMIENDIAKATGDIKVTESEIKRRSHLQ  
LLNSKAS