



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human TIM3 Protein
Catalog Number: hRP-1060
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by T-cell immunoglobulin and mucin domain-containing protein-3 (TIM3) gene belongs to the immunoglobulin superfamily, and TIM family of proteins. CD4-positive T helper lymphocytes can be divided into types 1 (Th1) and 2 (Th2) on the basis of their cytokine secretion patterns. Th1 cells are involved in cell-mediated immunity to intracellular pathogens and delayed-type hypersensitivity reactions, whereas, Th2 cells are involved in the control of extracellular helminthic infections and the promotion of atopic and allergic diseases. This protein is a *Th1-specific cell surface protein* that regulates macrophage activation, and inhibits Th1-mediated auto- and alloimmune responses, and promotes immunological tolerance. Recent data indicated that TIM3 is specific therapeutic target protein for targeting AML stem cells.

Full-length extracellular domain of human TIM3 cDNA (22 – 202 aa, derived from BC063431) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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: TIM3 (HAVCR2; KIM-3; Tim-3; TIMD-3)
Accession Number: NP_116171.3
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, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Monney,L., et al., *Th1-specific cell surface protein Tim-3 regulates macrophage activation and severity of an autoimmune disease*. Nature 415 (6871), 536-541 (2002)

Yoshikane Kikushige, et al., *TIM3 is a promising target to selectively kill acute myeloid leukemia stem cells*. Cell Stem Cell,7, 708-717. 2010.

Max Jan. et al., *Clonal evolution of preleukemic hematopoietic stem cells precedes human acute myeloid leukemia*. Sci Trans Med 4, 149ra118, (2012).

Applications

1. May be used for in vitro human myeloid leukemia stem cell differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for TIM3 protein-protein interaction assay.
3. Potential biomarker protein for monitoring Th1 cell activities for various auto-immuno-diseases.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFSEVEYRAEVEGQNAYLPCFYTPAAPGNLVPVCWGKG
ACPVFECGNVVLRTDERDVNYWTSRYWLNDFRKGDVSLTIENVTLADSGIYCCRIQIPGIMND
EKFNLKLVIKPAKVTPAPTRQRDF'TAAAFPRMLTTRGHGPAETQTLGSLPDINLTQISTLANELR
DSRLANDLRDSGATIRIG