



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human T-bet Protein
Catalog Number: hTF-1114
Manufacturer: LD Biopharma, Inc.

Introduction

Human T-box Transcription Factor TBX21 (T-bet) gene is a member of a phylogenetically conserved family of genes that share a common DNA-binding domain, the T-box. T-box genes encode transcription factors involved in the regulation of developmental processes. This gene is the human ortholog of mouse Tbx21/Tbet gene. Studies in mouse show that Tbx21 protein is a Th1 cell-specific transcription factor that controls the expression of the hallmark Th1 cytokine, interferon-gamma (IFNG). Expression of the human ortholog also correlates with IFNG expression in Th1 and natural killer cells, suggesting a role for this gene in initiating Th1 lineage development from naive Th precursor cells.

Full-length human T-bet cDNA (535aa, which derived from BC039739) 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: T-bet (TBX21, T-PET)
Accession Number: NP_037483
Species: Human
Size: 25 µg / Vial
Composition: 0.2 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.

Key References

Bachmann,M.,et al., *IL-36gamma/IL-1F9, an innate T-bet target in myeloid cells*. J. Biol.



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

Chem. 287 (50), 41684-41696 (2012)

Ribeiro-dos-Santos,P., et al., *Chronic HIV infection affects the expression of the 2 transcription factors required for CD8 T-cell differentiation into cytolytic effectors*. Blood 119 (21), 4928-4938 (2012)

Yu,H.R., et al., *Different antigens trigger different Th1/Th2 reactions in neonatal mononuclear cells (MNCs) relating to T-bet/GATA-3 expression*. J. Leukoc. Biol. 74 (5), 952-958 (2003)

Faedo,A., et al., *Developmental expression of the T-box transcription factor T-bet/Tbx21 during mouse embryogenesis*. Mech. Dev. 116 (1-2), 157-160 (2002)

Applications

1. May be used for in vitro T-bet mediated Th1 cell differentiation regulation study with “ProFectin” based intracellular delivery of this protein.
2. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for protein-protein interaction mapping
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFGIVEPGCGDMLTGTEPMPGSDEGRAPGADPQHRYFY
YPEPGAQDADERRGGGSLGSPYPGGALVPAPPSRFLGAYAYPPRPQAAGFPGAGESFP
PPADAE
GYQPGEGYAAPDPRAGLYPGPREDYALPAGLEVSGKLRVALNNHLLWSKFNQHQTEMIITKQGR
RMFPFLSFTVAGLEPTSHYRMFVDVVLVDQHHWRYQSGKWWVQCCKAEGSMGPNRLYVHPDSPNT
GAHWMRQEVSVFGKLLKLTNNKGASNNVTQMIIVLQSLHKYQPRHLHIVEVNDGEPEAACNASNTHIF
TFQETQFIAVTAYQNAEITQLKIDNNPFAKGFRENFESMYTSVDTSSIPSPGPNCQFLGGDHYS
PLLPNQYPVPSRFYFDLPDLPQAKDVVPQAYWLGAPRDHSYEAEFRAVSMKPAFLPSAPGPTMSYY
RGQEVLPAGAGWPVAPQYPPKMGPASWFRPMRTLPMPEPGPGGSEGRGPEDQGPPLVWTEIAPIR
PESSDSGLGEGDSKRRRVSPYPSSGSSSPAGAPSPFDKEAEGQFYNYFPN