LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CT38-11R Protein
Catalog Number: hRP-2003
Manufacturer: LD Biopharma, Inc.

Introduction

Human CT38 (also named as ferritin heavy polypeptide-like 17 =FTHL17) gene encodes a ferritin heavy chain-like protein. This gene is primarily expressed in embryonic germ cells. CT38 protein may lack ferroxidase activity. Normally, this gene expression is restricted in human testis tissue, but also expressed in a wide variety of cancer tissues. As such, CT24.2 is a good candidate protein for anti-tumor vaccine development.

Full-length human CT38 cDNA (182aa) was constructed with codon optimization gene synthesis and expressed with a human Alpha Fetal Protein at N-terminal / His Tag /TEV enzyme site/ and 11 arginine (11R tag) at C-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:	CT38 (FTHL17)
Accession Number:	NP_114100.1
Species:	Human
Size:	10 µg / Vial
Composition:	0.1 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

Ruzzenenti P, et al., *The Ferritin-Heavy-Polypeptide-Like-17 (FTHL17) gene encodes a ferritin with low stability and no ferroxidase activity and with a partial nuclear localization*. Biochim. Biophys. Acta 1850 (6), 1267-1273 (2015)

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Atanackovic D, et al., *Expression of cancer-testis antigens as possible targets for antigen-specific immunotherapy in head and neck squamous cell carcinoma*. Cancer Biol. Ther. 5 (9), 1218-1225 (2006)

Salmaninejad A, et al. *Cancer/Testis Antigens: Expression, regulation, Tumor Invasion, and Use in Immunotherapy of Cancers*. Immunol Invest. Oct; 45(7): 619-640. (2016).

Nicole Brooks, et al. *Comparative Immunogenicity of a Cytotoxic T cell Epitope Delivered by Penetratin and TAT Cell Penetrating Peptides*. Molecules. 20, 14033-14050. (2015)

Madiha Derouazi, et al. *Novel cell penetration peptide based vaccine induces robust CD4+ and CD8+ T cell mediated antitumor immunity*. Cancer Res; 75(15) August 1, 3020-3031 (2015)

Applications

1. May be used for in vitro CT38 mediated anti-tumor immunotherapy study for T cell activation study with this protein for intracellular delivery and then re-presenting on the cell surface in MHC complex for antigen specific immunogenicity stimulation in vitro or in vivo.

2. As immunogen for specific antibody production.

Quality Control

Purity: > 70% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHHGSENLYFQGATAQPSQVRQKYDTNCDAAINSHITLELYTSYLYLSMAF
YFNRDDVALENFFRYFLRLSDDKMEHAQKLMRLQNLRGGHICLHDIRKPECQGWESGLVAMESA
FHLEKNVNQSLLDLYQLAVEKGDPQLCHFLESHYLHEQVKTIKELGGYVSNLRKICSPEAGLAE
YLFDKLTLGGRVKETESGGGGSPGRRRRRRRRRRR