



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CT78-11R Protein
Catalog Number: hRP-2019
Manufacturer: LD Biopharma, Inc.

Introduction

Human Testis-specific Y-encoded protein 1 (TSPY1, also named as CT78) encodes 308aa protein which may be involved in sperm differentiation and proliferation. Normally, this gene expression is restricted in human testis tissue, but it also expressed in a wide variety of cancer tissues. As such, CT78 is a good candidate protein for anti-tumor vaccine development. CT78 is located in the gonadoblastoma critical region and is preferentially expressed in tumor germ cells of gonadoblastoma specimens.

Full-length human CT78 cDNA (307aa, derived from BC121113) was constructed with codon optimization gene synthesis and expressed with a human Alpha Fetal protein at N-terminal 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: CT78 (TSPY1; DYS14; pJA923; TSPY)
Accession Number: NP_003299.2
Species: Human
Size: 20 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, 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

Li Y, et al., *The Y-located proto-oncogene TSPY exacerbates and its X-homologue TSPX inhibits transactivation functions of androgen receptor and its constitutively active variants.* Hum. Mol. Genet. 26 (5), 901-912 (2017)



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Kido T., et al, *The Y-located gonadoblastoma gene TSPY amplifies its own expression through a positive feedback loop in prostate cancer cells.* Biochem. Biophys. Res. Commun. 446 (1), 206-211 (2014)

Jacob RR, et al., *Noninvasive Diagnosis of Fetal Gender: Utility of Combining DYS14 and SRY.* Genet Test Mol Biomarkers 19 (9), 505-511 (2015)

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 CT78 mediated anti-tumor immunotherapy for T cell activation study with this fusion protein for intracellular delivery in MHC pathway.
2. As immunogen for specific antibody production.

Quality Control

Purity: > 80% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFFMNFYIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHHGSSENLYFQ/GRPEGLTYRVPERLRQGFVCGVGRAAQALVCASAKEGTA
FRMEAVQEGAAGVESEQAALGEEAVLLDDIMAEVEVVAEEEEGLVERREEAQRAQQAVPGPGPM
TPESAPEELLAVQVELEPVNAQARKAFSRQREKMERRRKPHLDRRGAVIQSVPGFWANVIANHP
QMSALITDEDEDMLSYMVSLEVGEKHPVHLCKIMLFFRSNPYFQNKVITKEYLVNITEYRASH
STPIEWYPDYVEAYRRRHNSLNFFNWFSDHNFAGSNKIAEILCKDLWRNPLQYYKRMKPPE
EGTETSGDSQLLSESGGGGSPGRRRRRRRRRRR