



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human **MAGEA3**-11R Protein
Catalog Number: HRP-2265
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human melanoma-associated antigen 3 (MAGEA3) gene encodes a tissue specific protein which was proposed to enhance ubiquitin ligase activity of RING-type zinc finger-containing E3 ubiquitin-protein ligases. It may enhance ubiquitin ligase activity of TRIM28 and stimulate p53/TP53 ubiquitination by TRIM28. MAGEA3 may act through recruitment and/or stabilization of the Ubl-conjugating enzyme (E2) at the E3: substrate complex. It may play a role in embryonal development and tumor transformation or aspects of tumor progression. In vitro promotes cell viability in melanoma cell lines. Antigen recognized on a melanoma by autologous cytolytic T-lymphocytes. Recently MAGEA3 was functionally characterized as having a pro-tumor role in experimental models of pancreatic cancer and HCC. MAGEA3 mediates increased proliferation and chemoresistance against cytotoxic agents in pancreatic and various HCC cell lines. Targeting MAGEA3 was demonstrated as unique strategy for potential HCC therapy when MAGEA3 function as a driver of liver cancer progression.

Full-length human MAGEA3 cDNA (313aa) was constructed with codon optimization gene synthesis and expressed with a human N-terminal T7-His-TEV cleavage site Tag (29aa) fusion. 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:	MAGEA3	(MAGE3)
Accession Number:	NP_005353	
Species:	Human	
Size:	50µg / Vial	
Composition:	0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT and other.	
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

Amanda J. Craig, et al., *Transcriptomic characterization of cancer-testis antigen identifies MAGEA3 as a driver of tumor progression in hepatocellular carcinoma*. PLOS Genetics 17(6): e1009589 (2021).

Khalvandi A, et al., *Nuclear overexpression levels of MAGE-A3 predict poor prognosis in patients with prostate cancer*. APMIS 129 (6), 291-303 (2021)

Chen A, et al., *MAGE-A3 is a prognostic biomarker for poor clinical outcome in cutaneous squamous cell carcinoma with perineural invasion via modulation of cell proliferation*. PLoS One 15 (11), e0241551 (2020)

Applications

1. May be used for in vitro MAGEA3 mediated ubiquitin signaling regulation for cancer cell study by adding recombinant human MAGEA3-11R protein directly into cell culture medium as intracellular delivery of protein.
2. May be used for MAGEA3 protein-protein interaction assay.
3. May be used as specific substrate protein for MAGEA3 specific kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential therapeutic protein, which may be used for HCC treatment.
5. As native human MAGEA3 antigen for specific antibody production.

Quality Control

Purity: > 93 % by SDS-PAGE.

Recombinant Human MAGEA3-11R Protein Sequence (40.5 kD)

MASMTGGQOMGRGHHHHHENLYFQGGFELPLEQRSQHCKPEEGLEARGEALGLVGAQAPATE
EQEAASSSSTLVEVTLGEVPAAESPDPPQSPQGASSLPTTMNYPLWSQSYEDSSNQEEEGPSTF
PDLESEFQAALSRKVAELVHFLLLKYRAREPVTKAEMLGSVVGNWQYFFPVIIFSKASSSLQLVF
GIELMEVDPIGHLYIFATCLGLSYDGLLDGNQIMPKAGLLIIVLAI IAREGDCAPEEKIWEELS
VLEVFEGREDSILGDPKLLTQH FVQENYLEYRQVPGSDPACYEFLWGPRALVETS YVKVLHHM
VKISGGPHISYPPLHEWVLRGEEESGGGSPGRRRRRRRRRR