



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human LAG3 Fragment-III Protein
Catalog Number: HRP-2685
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human lymphocyte activation gene 3 protein (LAG3, also named as CD223) gene is a cell membrane protein, which is involved in lymphocyte activation and regulating antigen presentation process by directly binds to HLA class-II antigens. Recent data indicated that LAG3 plays a major role in regulating immune-checkpoint by direct-interaction with its ligand protein FGL1, and blocking this pathway may enhance anti-tumor immunity.

Human LAG3 is a single-pass trans-membrane protein with 422aa extracellular domain. Full-length (29 - 450aa) extracellular domain of human LAG3 can be separated into four Ig-like domains. To benefit specific anti-LAG3 antibody binding epitope mapping, each Ig-like domain was individually constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its N-terminal in E.coli as inclusion bodies. The LAG3 second Ig-like domain (**Fragment – III: 253-374 aa**) recombinant protein was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol:	LAG3	(CD223; FDC)
Accession Number:	NP_002277.4	
Species:	Human	
Size:	40 µg / Vial	
Composition:	0.4 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT and others.	
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.	

Key References



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Jun Wang, et al., *Fibrinogen-like protein 1 is a major immune inhibitory ligand of LAG-3*. Cell 176, 1-14 (2018)

Wang J, et al., *LAG-3 Represents a Marker of CD4+ T Cells with Regulatory Activity in Patients with Bone Fracture*. Immunol. Invest. 47 (5), 492-503 (2018)

Lee SJ, et al., *CD274, LAG3, and IDO1 expressions in tumor-infiltrating immune cells as prognostic biomarker for patients with MSI-high colon cancer*. J. Cancer Res. Clin. Oncol. 144 (6), 1005-1014 (2018)

Freeze B, et al., *Regional expression of genes mediating trans-synaptic alpha-synuclein transfer predicts regional atrophy in Parkinson disease*. Neuroimage Clin 18, 456-466 (2018)

Applications

1. May be used for in vitro mapping anti – human LAG3 specific antibody’s binding epitope.
2. A good antigen for domain-III specific anti-LAG3 antibody development.

Quality Control

Purity: > 92 % by SDS-PAGE.

Recombinant Human **AFPn**-LAG3 Fragment–III Protein Sequence (34.7 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLEELCHEKEILEKYGHSDCCSQSEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMKNFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHGSENLYFOGGEIMYNLTVLGLPEPTPLTVYAGAGSRVGLPCRLPAGVGTRSFLLAK
WTPPGGGPDLVLTGDNGDFTLRLEDVVSQAQAGTYTCHIHLEQQLNATVT