Active Recombinant Human LAG3 protein, Fc/Avi-tagged, Biotinylated

Cat. No. LAG3-051H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human LAG3(Leu23-Leu450) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .
Species	Human
Source	CHO
ProteinLength	Leu23-Leu450
Description	LAG-3 (Lymphocyte activation gene-3), designated CD223, is a 70 kDa type I transmembrane protein that is a member of the immunoglobulin superfamily (IgSF) (1, 2). LAG-3 shares approximately 20% amino acid sequence homology with CD4, but has similar structure and binds to MHC class II with higher affinity, providing negative regulation of T cell receptor signaling (1, 2). Human LAG-3 cDNA encodes 525 amino acids (aa) that include a 28 aa signal sequence, a 422 aa extracellular domain (ECD) with four Ig-like domains, a transmembrane region and a highly charged cytoplasmic region. Within the ECD, human LAG-3 shares 70%, 67%, 76%, and 73% aa sequence identity with mouse, rat, porcine, and bovine LAG-3, respectively. LAG-3 is expressed on activated CD4+ and CD8+ T cells, NK cells, and plasmacytoid dendritic cells (pDC), but not on resting T cells (1-3). LAG-3 on activated CD4+CD25+ Treg cells plays a role in their suppressive activity (4). LAG-3 limits the expansion of activated T cells and pDC in response to selected stimuli (3-5). A soluble 54 kDa form, sLAG-3, can be shed by metalloproteinases ADAM10 and TACE/ADAM17 (6,

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	7). While monomeric sLAG-3 itself may be inactive, shedding allows for normal T cell activation by removing negative regulation (7). Binding of a homodimerized sLAG-3/Ig fusion protein to MHC class II molecules induces maturation of immature DC, and secretion of cytokines such as IFN-gamma and TNF-alpha by type 1 cytotoxic CD8+ T cells and NK cells (8, 9). sLAG-3/Ig has been used as a potential adjuvant to stimulate a cytotoxic anti-cancer immune response (9, 10). In mice, deletion of LAG-3 and another negative regulator, PD-1, facilitates anti-cancer response but also blocks self-tolerance and increases susceptibility to autoimmune diseases (11, 12). In humans, antibody-mediated down-regulation of LAG-3 and PD-1 allows more effective control of chronic malaria, while in NOD (non-obese diabetic) mice, deletion of LAG-3 alone accelerates diabetes (12-14).
Predicted N Terminal	Leu23
Form	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.
Bio-activity	Measured by its binding ability in a functional ELISA. When Recombinant HumanFGL1 His-tag is immobilized at 1 μg/mL (100 μL/well), the concentration of Recombinant Human LAG3 Fc Chimera Avi-tag that produces 50% of the optimal binding response is 0.1-0.6 μg/mL.
Molecular Mass	81-92 kDa, under reducing conditions
Endotoxin	<0.10 EU per 1 μg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Applications	Bioactivity

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Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles.12 months from date of receipt, -20 to -70 °C as supplied.1 month, 2 to 8 °C under sterile conditions after reconstitution.3 months, -20 to -70 °C under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 500 µg/mL in PBS.
Conjugation	Biotin

GENE INFORMATION

Gene Name	LAG3 lymphocyte-activation gene 3 [Homo sapiens]
Official Symbol	LAG3
Synonyms	LAG3; lymphocyte-activation gene 3; lymphocyte activation gene 3 protein; CD223;
Gene ID	3902
mRNA Refseq	NM_002286
Protein Refseq	NP_002277
MIM	153337
UniProt ID	P18627

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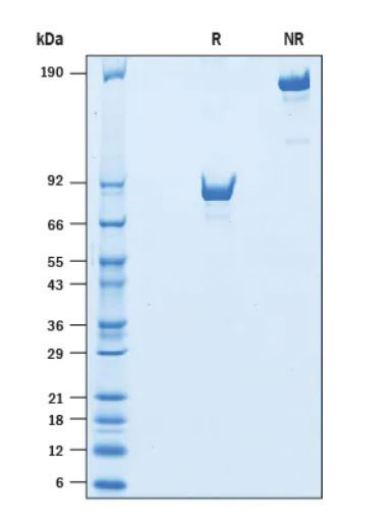
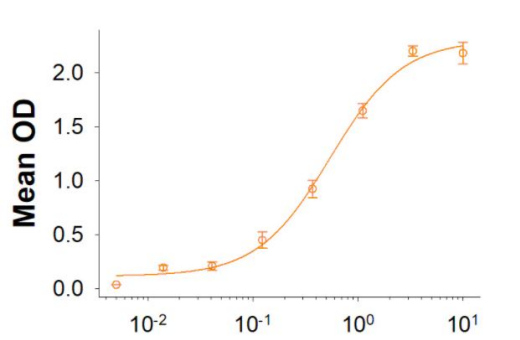
SDS-PAGE	 2 μg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.
Binding Activity	

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