10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

LAG-3/CD223

Catalog # PVGS1599

Product Information

Primary Accession	P18627
Species	Human
Sequence	Leu23-Leu450
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Biological Activity	Immobilized FGL-1-His (LC13SE1012) at 2.0 μg/ml (100 μl/well) can bind LAG-3/CD223, hFc, Human with EC_{50} = 0.306 μg/ml when detected by Mouse Anti–Human IgG FC-HRP.
Expression System	HEK 293
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O or PBS up to 100 μg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	3902
Other Names	Lymphocyte activation gene 3 protein, LAG-3, CD223, Secreted lymphocyte activation gene 3 protein, sLAG-3, LAG3 (HGNC:6476), FDC
Target Background	Lymphocyte activation gene-3 (LAG-3), also known as CD223, is a cell-surface 70kDa molecule belong to Ig superfamily with diverse biologic effects on T cell function. LAG-3 is a CD4 homolog originally cloned in 1990. The gene for LAG-3 lies adjacent to the gene for CD4 on human chromosome 12 (12p13) and is approximately 20% identical to the CD4 gene. 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 B cells, NK cells, tumor-infiltrating lymphocytes, and a subset of T cells. LAG-3 was relatively overexpressed on transgenic T cells rendered anergic in vivo by encounter with cognate self-antigen. LAG-3 negatively regulates murine T cell activation and homeostasis. LAG-3 activates antigen-presenting cells through MHC class II signaling, leading to increased antigen-specific T-cell responses in vivo.

Blocking or knocking out LAG-3 in neuronal cultures or in animals mitigated the transmission of α-synuclein between neurons, and dampened accumulation as well as toxic effects of the fibrils on motor function. Anti-LAG3 antibodies are already being tested as cancer treatments, it could also make a useful therapeutic target to treat Parkinson's and other synucleinopathies.

Protein Information

Name	LAG3 (HGNC:6476)
Synonyms	FDC
Function	Lymphocyte activation gene 3 protein: Inhibitory receptor on antigen activated T-cells (PubMed:20421648, PubMed:7805750, PubMed:8647185). Delivers inhibitory signals upon binding to ligands, such as FGL1 (By similarity). FGL1 constitutes a major ligand of LAG3 and is responsible for LAG3 T-cell inhibitory function (By similarity). Following TCR engagement, LAG3 associates with CD3-TCR in the immunological synapse and directly inhibits T-cell activation (By similarity). May inhibit antigen-specific T-cell activation in synergy with PDCD1/PD-1, possibly by acting as a coreceptor for PDCD1/PD-1 (By similarity). Negatively regulates the proliferation, activation, effector function and homeostasis of both CD8(+) and CD4(+) T-cells (PubMed:20421648, PubMed:7805750, PubMed:8647185). Also mediates immune tolerance: constitutively expressed on a subset of regulatory T-cells (Tregs) and contributes to their suppressive function (By similarity). Also acts as a negative regulator of plasmacytoid dendritic cell (pDCs) activation (By similarity). Binds MHC class II (MHC-II); the precise role of MHC-II-binding is however unclear (PubMed:8647185).
Cellular Location	[Lymphocyte activation gene 3 protein]: Cell membrane; Single-pass type I membrane protein
Tissue Location	Primarily expressed in activated T-cells and a subset of natural killer (NK) cells.