

**LAG-3/CD223**  
**Catalog # PVGS1599****Specification**

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**LAG-3/CD223 - Product Information**

Primary Accession [P18627](#)  
**Species**  
Human

**Sequence**  
Leu23-Leu450

**Purity**  
> 95% as analyzed by SDS-PAGE

**Endotoxin Level**  
< 1 EU/ µg of protein by gel clotting method

**Biological Activity**  
Immobilized FGL-1-His (LC13SE1012) at 2.0 µg/ml (100 µl/well) can bind LAG-3/CD223, hFc, Human with EC<sub>50</sub> = 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<sub>2</sub>O 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.

**LAG-3/CD223 - Additional Information**

**Gene ID** 3902

**Other Names**  
Lymphocyte activation gene 3 protein, LAG-3, CD223, Secreted lymphocyte activation gene 3 protein, sLAG-3, LAG3 ([http://www.genenames.org/cgi-bin/gene\\_symbol\\_report?hgnc\\_id=6476](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=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  $\alpha$ -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.

## LAG-3/CD223 - Protein Information

**Name** LAG3 ([HGNC:6476](#))

**Synonyms** FDC

### Function

Lymphocyte activation gene 3 protein: Inhibitory receptor on antigen activated T-cells (PubMed:<a href="http://www.uniprot.org/citations/20421648" target="\_blank">20421648</a>, PubMed:<a href="http://www.uniprot.org/citations/7805750" target="\_blank">7805750</a>, PubMed:<a href="http://www.uniprot.org/citations/8647185" target="\_blank">8647185</a>). 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:<a href="http://www.uniprot.org/citations/20421648" target="\_blank">20421648</a>, PubMed:<a href="http://www.uniprot.org/citations/7805750" target="\_blank">7805750</a>, PubMed:<a href="http://www.uniprot.org/citations/8647185" target="\_blank">8647185</a>). 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:<a href="http://www.uniprot.org/citations/8647185" target="\_blank">8647185</a>).

### 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.

## LAG-3/CD223 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**LAG-3/CD223 - Images**