

IVMB0419

Product Information

Product SKU: IVMB0419	Clone: BMS-986016	Target: LAG-3
Size: 25 mg, 5.0 mg, 1.0 mg		Isotype: Human IgG4k

Additional Information

Reactivity: Human	Host Species: Human
Antibody Type: Biosimilar Recombinant Human Monoclonal Antibody	Expression Host: HEK-293 Cells

Immunogen Information

Background: LAG-3 (CD223) is an immune inhibitory receptor in activated T cells that inhibits T cell activation and proliferation, immune function, cytokine secretion, effector functions, and T cell homeostasis¹. LAG-3 functions by down-modulating TCR:CD3 intercellular signal transduction cascades and calcium fluxes in the immunological synapse. LAG-3 inhibitory activities are mediated by its ligands: major histocompatibility complex class II, galectin-3, liver secreted protein fibrinogen-like protein 1, and DC-specific intercellular adhesion molecule-3-grabbing non-integrin family member. Some of these LAG-3 ligand combinations are responsible for tumor immune evasion mechanisms¹ and LAG-3 is considered an aggressive progression marker in several hematological and solid tumor malignancies². As such, LAG-3 is a target of cancer immunotherapy. Relatimab is the first anti-LAG-3 monoclonal antibody to be clinically developed¹. It was generated using proprietary transgenic mice having human immunoglobulin miniloci in an endogenous IgH and Igk knockout background³. The mice were immunized with recombinant human LAG-3-Fc protein, consisting of the LAG-3 extracellular domain (Leu23-Leu450) fused to the Fc portion of human IgG1. Hybridomas were generated by fusing spleen cells with P3×63Ag8.653 myeloma cells and screened for reactivity to hLAG-3-hFc. Clone 25F7 was chosen for grafting onto human κ and IgG4 constant region sequences, expressed in Chinese hamster ovary cells, and sequence optimized. The S228P stabilizing hinge was incorporated into the resulting antibody to prevent Fab-arm exchange. The binding epitope was experimentally determined to be in the N-terminal D1 insertion loop domain of LAG-3

within the H63-W70 peptide sequence. Relatlimab binds to the LAG-3 receptor, blocking interaction with its ligands³ and consequently promotes T cell proliferation and cytokine secretion^{3, 4}. Relatlimab depletes leukemic cells and restores T cell and NK cell-mediated immune responses in vitro⁵. Relatlimab has also been developed as a combination therapy with an anti-PD-1 antibody for increased T cell activation and anti-tumor effects⁴.

Endotoxin Level:	< 1.0 EU/mg as determined by the LAL method
Applications:	ELISA
Synonyms:	Lymphocyte-activation gene 3. CD223
Antigen Distribution:	LAG-3 is a surface molecule expressed by many T cell subsets (CD4 T helper cells, cytotoxic CD8 T cells, activated T cells, NK T cells, effector CD4 T cells, regulatory T cells, CD8 tumor-infiltrating lymphocytes, and tumor infiltrating antigen specific CD8 T cells) as well as by natural killer cells, B cells, natural regulatory plasma cells, plasmacytoid dendritic cells, and neurons.
Immunogen:	Human LAG-3
Formulation:	This biosimilar antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
Specificity:	Relatlimab activity is directed against human LAG-3. Relatlimab also binds cynomolgus monkey LAG-3 but with lower affinity relative to the human homolog.
Product Preparation:	Recombinant biosimilar antibodies are manufactured in an animal free facility using only in vitro protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.
Storage & Handling:	Functional grade biosimilar antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at -80°C. Avoid Repeated Freeze Thaw Cycles.