

IVMB0493

Product Information

Product SKU: IVMB0493	Clone: NI-0501	Target: IFN- γ
Size: 500 μ g		Isotype: Human IgG1 L2

Additional Information

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

Immunogen Information

Background: IFN γ plays roles in Th1 differentiation, macrophage function, leukocyte migration to sites of infection, and increasing major histocompatibility complex expression to improve T-cell recognition of infected or malignant cells ¹. Hemophagocytic lymphohistiocytosis (HLH) is a rare but severe dysregulation of the immune system characterized by increased IFN γ production, macrophage and lymphocyte hyperactivity with tissue infiltration, hypersecretion of pro-inflammatory cytokines (CXCL9), hemophagocytosis, tissue damage, and multi-organ failure ². IFN γ plays a central role in the pathophysiology of HLH, and blocking IFN γ leads to clinical improvement.

Emapalumab was developed by Novimmune and Swedish Orphan Biovitrum as an immunotherapeutic treatment for HLH ². Emapalumab is a fully human IgG1 monoclonal antibody that targets and binds to IFN γ with high affinity. Emapalumab neutralizes IFN γ activity and inhibits interaction with its receptor by acting as a non-competitive inhibitor binding to free IFN γ and IFN γ -Receptor-1(IFN γ R1)-bound IFN γ . Emapalumab inhibits receptor dimerization and transduction of interferon- γ signaling, impairing the interaction induced by IFN γ at the cell surface with IFN γ R1 and IFN γ R2 and thereby neutralizing IFN γ biologic activity ^{2,3,4}. Emapalumab prevents recruitment of IFN γ R2 but has no effect on IFN γ R1 endocytosis and internalization into lysosomes ^{2,4}. In HLH patients, emapalumab reduces the plasma concentrations of the cytokine CXCL9.

Emapalumab is composed of anti-(human IFN γ) human monoclonal NI-0501 heavy chain, disulfide with human monoclonal NI-0501 light chain, dimer ². Emapalumab is produced by recombinant DNA technology and is approximately 148 kDa ⁵.

Endotoxin Level:	< 1.0 EU/mg as determined by the LAL method
Applications:	ELISA
Synonyms:	Emapalumab,NI-0501,emapalumab-lzsg,IFNG
Antigen Distribution:	IFN γ is produced by natural killer and natural killer T cells, T-helper 1 (Th1) CD4 + T cells, and CD8 + and cytotoxic T-lymphocytes.
Immunogen:	Human IFN γ
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:	Emapalumab activity is directed against human IFN γ .
Recommended Isotype	Human IgG1
Controls:	
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.