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Anti-Human CD80 (Galiximab Biosimilar)

Catalog Number:	503001, 503002, 503003
Size:	1 mg, 5 mg, 20 mg
Target Name:	CD80, B7-1, B7, BB1
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	Galiximab
Application:	Flow cytometry, animal model study
Reactivity:	Human
Format:	Liquid
Product Description:	Galiximab Biosimilar, CD80 Monoclonal Antibody
Isotype:	Human IgG1
Clonality:	Recombinant
Immunogen:	Human CD80
Species specificity:	Human
Purity:	>95% by reducing SDS-PAGE
Grade:	In vivo
Storage Conditions:	4ºC
Maximal Shelf Life:	12 months
Synonyms:	B7-1
Antibody Type:	Recombinant
Reactivity:	Human

BACKGROUND INFORMATION

Galiximab is a chimeric monoclonal antibody belonging to the immunoglobulin G1 kappa (IgG1κ) subclass, engineered to specifically recognize and bind to the human CD80 antigen, also known as B7-1. Structurally, the molecule is composed of two identical heavy chains and two identical light chains, joined by interchain disulfide bonds in the classical Y-shaped antibody conformation. The molecular weight of Galiximab is approximately 150 kilodaltons (kDa). The antibody is produced using mammalian expression systems that facilitate proper folding, glycosylation, and assembly consistent with human immunoglobulin frameworks.

The variable domains of the heavy (VH) and light (VL) chains, derived from murine sequences, form the antigen-binding regions of Galiximab. These regions contain complementarity-determining regions (CDRs) that determine binding specificity and affinity for CD80. The constant domains are of human origin, providing the molecule with reduced immunogenicity and improved structural

stability. The epitope recognized by Galiximab lies on the extracellular domain of CD80, a costimulatory molecule expressed on the surface of activated B cells and antigen-presenting cells. By binding to CD80, Galiximab sterically interferes with its interaction with CD28 and CTLA-4 on T cells. This blockade modulates key costimulatory signals required for full T-cell activation, cytokine production, and proliferation, making it highly relevant for experimental studies in immune signaling and cellular communication.

The Fc (fragment crystallizable) region of Galiximab, consistent with human IgG1 antibodies, contributes to molecular stability and long serum persistence through interaction with the neonatal Fc receptor (FcRn). It also retains the potential to engage Fc gamma receptors (FcγRs), facilitating secondary immune effector activities such as antibody-dependent cellular cytotoxicity (ADCC) in vitro. Overall, Galiximab represents a rationally designed chimeric IgG1κ antibody that integrates murine-derived epitope specificity with human antibody architecture, serving as a model for studying costimulatory receptor–ligand interactions and B-cell–T-cell signaling regulation in immunological research.

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