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Anti-Human B7-H3 (Ifinatamab Biosimilar)

Catalog Number:	503201, 503202, 503203
Size:	1 mg, 5 mg, 20 mg
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	Ifinatamab
Application:	Flow cytometry, animal model study
Format:	Liquid
Product Description:	Ifinatamab Biosimilar, Human B7-H3 Monoclonal Antibody
Isotype:	Human IgG1
Clonality:	Recombinant
Immunogen:	Human B7-H3
Species specificity:	Human
Purity:	>95% by reducing SDS-PAGE
Grade:	In vivo
Min Sample Size:	1 mg
Storage Conditions:	4ºC
Maximal Shelf Life:	12 months
Synonyms:	CD276

BACKGROUND INFORMATION

Ifanatamab, also known as Ifinatamab deruxtecan or DS-7300a, is a humanized monoclonal antibody belonging to the immunoglobulin G1 kappa (IgG1κ) subclass. It is engineered to recognize and bind to the human B7-H3 (CD276) cell surface glycoprotein, a member of the B7 family involved in immune regulation and intercellular signaling. As a therapeutic, the Ifanatamab molecule is part of an antibody–drug conjugate (ADC) system, where the IgG1 antibody is covalently linked to a cytotoxic topoisomerase I inhibitor, deruxtecan, via a cleavable peptide-based linker. The complete conjugate typically displays a molecular weight near 150 kilodaltons (kDa) and maintains the classical Y-shaped antibody configuration.

The antibody portion of Ifanatamab consists of two heavy chains and two light chains joined by disulfide bonds. The variable (VH and VL) domains form the antigen-binding regions, containing complementarity-determining regions (CDRs) that confer high specificity toward epitopes on the extracellular domains of B7-H3. The binding mechanism involves non-covalent interactions, including hydrogen bonds and hydrophobic contacts, ensuring nanomolar-level affinity. Upon binding to B7-H3 on the cell surface, the ADC-antigen complex undergoes receptor-mediated endocytosis, transporting the conjugate into the lysosomal compartment of the target cell.

The Fc (fragment crystallizable) region of the IgG1 backbone supports molecular stability and prolonged half-life by engaging neonatal Fc receptors (FcRn), while maintaining minimal immune effector activation.