

ICOS Protein, Human, Recombinant (His & hFc)

General Information

Synonyms:	CD278;AILIM;CVID1;inducible T-cell co-stimulator
Protein Construction:	A DNA sequence encoding the extracellular domain of human ICOS (NP_036224.1) (Met 1-Phe 141) was fused to the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus. Predicted N terminal: Glu 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q53QY6
Molecular Weight:	41.6 kDa (predicted); 50 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Recombinant Human ICOS Ligand / B7-H2 / ICOSLG Protein (Fc Tag) at 2 µg/ml (100 µl/well) can bind Recombinant Human ICOS / AILIM / CD278 Protein (His & Fc Tag), the EC50 is 8-30 ng/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris, 150 mM Nacl, pH 8.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Inducible costimulator (ICOS), also called AILIM (Activation-Inducible Lymphocyte Immunomediatory Molecule) is a cell-surface receptor and belongs to the CD28 family of immune costimulatory receptors consisting of CD28, CTLA-4, and PD-1. The interaction of B7-H2/ICOS plays a critical role in Th cell differentiation, T-B cell interactions which

are essential for the germinal center formation, and humoral immune responses, and as well as the production of cytokine IL-4. Also, ICOS is more potent in the induction of IL-10 production, a cytokine important for the suppressive function of T regulatory cells. The B7-1/B7-2--CD28/CTLA-4 and ICOS-B7RP-1 pathway provide key second signals that can regulate the activation, inhibition, and fine-tuning of T-lymphocyte responses. ICOS stimulates both Th1 and Th2 cytokine production but may have a preferential role in Th2 cell development. Moreover, The B7-1/B7-2-CD28/CTLA-4 and ICOS-B7RP-1 pathway has been suggested as being involved in the development of airway inflammation and airway hyperresponsiveness. Cancer Immunotherapy Co-stimulatory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Proteins Immune Checkpoint Targets Immunotherapy Targeted Therapy

Reference

- Coyle AJ, et al. (2004) The role of ICOS and other costimulatory molecules in allergy and asthma. Springer Semin Immunopathol. 25(3-4): 349-59.
- Chen YQ, et al. (2006) CD28/CTLA-4--CD80/CD86 and ICOS--B7RP-1 costimulatory pathway in bronchial asthma. Allergy. 61(1): 15-26.
- van Berkel ME, et al. (2006) CD28 and ICOS: similar or separate costimulators of T cells Immunol Lett. 105(2): 115-22.

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