

## ICOS Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	inducible T-cell co-stimulator
Protein Construction:	A DNA sequence encoding the rat ICOS (Q9R1T7-1) (Met1-Leu142) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Glu 21
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q9R1T7-1
Molecular Weight:	40.7 kDa (predicted); 43-47 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % 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 PBS, pH 7.4. 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.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481