

ICOS
Catalog # PVGS1591**Specification**

ICOS - Product Information

Primary Accession [Q9Y6W8](#)
Species
Human

Sequence
Glu21-Phe141

Purity
> 90% as analyzed by SDS-PAGE

Endotoxin Level
< 0.2 EU/ µg of protein by gel clotting method

Expression System
HEK 293

Formulation **Lyophilized from a 0.2 µm filtered solution in PBS.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH₂O or PBS up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

ICOS - Additional Information

Gene ID 29851

Other Names
Inducible T-cell costimulator, Activation-inducible lymphocyte immunomediatory molecule, CD278, ICOS, AILIM

Target Background
Inducible T-cell costimulator is an immune checkpoint protein that in humans is encoded by the ICOS gene. CD278 or ICOS (Inducible T-cell COStimulator) is a CD28-superfamily costimulatory molecule that is expressed on activated T cells. It is thought to be important for Th2 cells in particular. The protein encoded by this gene belongs to the CD28 and CTLA-4 cell-surface receptor family. It forms homodimers and plays an important role in cell-cell signaling, immune responses and regulation of cell proliferation.

ICOS - Protein Information

Name ICOS

Synonyms AILIM

Function

Stimulatory receptor expressed in activated or antigen- experienced T-cells that plays an important role in the immune response (PubMed:9930702). Upon binding to its ligand ICOSL expressed on antigen presenting cells (APCs), delivers costimulatory signals that enhances all basic T-cell responses to a foreign antigen, namely proliferation, secretion of lymphokines including IL10, up-regulation of molecules that mediate cell-cell interaction, and effective help for antibody secretion by B-cells (PubMed:33033255). Also acts as a costimulatory receptor critical for the differentiation of T follicular regulatory cells upon immune challenges such as viral infection (PubMed:27135603). Mechanistically, potentiates TCR-induced calcium flux by augmenting PLCG1 activation and actin remodeling (By similarity). In addition, activates PI3K signaling pathways independently of calcium flux (PubMed:30523347). Essential both for efficient interaction between T and B-cells and for normal antibody responses to T-cell dependent antigens. Prevents the apoptosis of pre-activated T-cells. Plays a critical role in CD40-mediated class switching of immunoglobulin isotypes (By similarity).

Cellular Location

[Isoform 1]: Cell membrane; Single-pass type I membrane protein

Tissue Location

Activated T-cells. Highly expressed on tonsillar T- cells, which are closely associated with B-cells in the apical light zone of germinal centers, the site of terminal B-cell maturation Expressed at lower levels in thymus, lung, lymph node and peripheral blood leukocytes. Expressed in the medulla of fetal and newborn thymus

ICOS - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ICOS - Images