

Datasheet for ABIN7566211

IL-2 Protein (AA 21-153, Monomer) (Fc Tag)



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Overview

Quantity:	10 µg
Target:	IL-2 (IL2)
Protein Characteristics:	AA 21-153, Monomer
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This IL-2 protein is labelled with Fc Tag.

Product Details

Purpose:	IL-2 (human) (Switch-2) (monomeric):Fc-KIH (human) (rec.)
Cross-Reactivity:	Human, Mouse
Characteristics:	The extracellular domain of human IL-2 (aa 21-153) (mutant pH -resistant Switch-2 containing mutations T37H, R38L, T41S, F42Y, and K43G) is fused at the C-terminus to the Fc portion of human IgG1 (Knobs-into-Holes technology) (see reference: J.B. Ridgway, et al., Protein Eng. 9, 617 (1996)).
Purity:	>95 % (SDS-PAGE)
Endotoxin Level:	<0.01EU/µg protein (LAL test).

Target Details

Target:	IL-2 (IL2)
Alternative Name:	IL-2 (IL2 Products)

Target Details

Background: IL-2 Switch-2 (monomeric):Fc Knobs-into-Holes (human) (rec.), Interleukin-2, T Cell Growth Factor, TCGF, IL-2 pH resistant, pH -selective IL-2 Mutein

Interleukin-2 (IL-2) is a 133 amino acid glycoprotein with one intramolecular disulfide bond and variable glycosylation. It is secreted by activated T cells and induces proliferation and maturation of activated T cells, natural killer cells and lymphokine activated killer cells. IL-2 also stimulates proliferation of antibody-producing B cells, activates neutrophils and induces mononuclear cells to secrete IFN-gamma and TNF-alpha and -beta. Moreover, studies have shown that IL-2 is required for activation-induced apoptosis, an important homeostatic mechanism in the immune system, which is involved in the maintenance of peripheral tolerance to self-antigens. IL-2 promotes T cell proliferation and particularly naive T cells. IL-2 signaling on activated T cells is effected through a quaternary high-affinity receptor complex consisting of IL-2, IL-2Ralpha (CD25), IL-2Rbeta and IL-2Rgamma. Naive T cells are relatively insensitive to IL-2 as they only express small amounts of IL-2Rbeta and IL-2Rgamma. They only acquire sensitivity after CD25 expression, which captures the cytokine and presents it to the IL-2Rbeta and IL-2Rgamma receptors. Activity of interleukin-2 (IL-2), is profoundly affected by pH , limiting IL-2 signaling within the acidic environment of tumors. A new designed IL-2, named Switch-2, binds the IL-2 receptor subunit IL-2Ralpha with higher affinity, triggers STAT5 activation and drives CD8+ T cell effector function more potently at acidic pH than at neutral pH . The protein IL-2 (human) (Switch-2) (monomeric):Fc-KIH (human) (rec.) is produced by using two different vectors, one encoding for the IL-2 (human) (Switch-2):Fc Knobs sequence (synthesizing a protein of 45 kDa) and one encoding for the Fc Holes sequence (synthesizing a protein of 28 kDa). Both vectors transfected into HEK293 cells produce both Fc molecules (Knobs-into-Holes technology, J.B. Ridgway, et al., Protein Eng. 9, 617 (1996)) required for dimerization and for secretion of the final protein IL-2 (human) (Switch-2) (monomeric):Fc-KIH (human) (rec.). InVivoKines™ are a new generation of recombinant fusion proteins for immunotherapeutic, preclinical and translational in vivo research

Molecular Weight: ~45kDa and 28kDa (SDS-PAGE)

UniProt: [P60568](#)

Pathways: [JAK-STAT Signaling](#), [Regulation of Leukocyte Mediated Immunity](#), [Positive Regulation of Immune Effector Process](#), [Production of Molecular Mediator of Immune Response](#), [Activated T Cell Proliferation](#)

Application Details

Restrictions: For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	After reconstitution:for 10 µg size: 0.1 mg/mLfor 100 µg size: 1 mg/mL
Concentration:	Lot specific
Buffer:	Contains PBS.
Handling Advice:	After reconstitution, prepare aliquots and store at -20 °C. Avoid freeze/thaw cycles. Centrifuge lyophilized vial before opening and reconstitution. PBS containing at least 0.1 % BSA should be used for further dilutions.
Storage:	4 °C,-20 °C
Storage Comment:	Short Term Storage: +4°C Long Term Storage: -20°C Use & Stability: Stable for at least 6 months after receipt when stored at -20°C.Working aliquots are stable for up to 3 months when stored at -20°C.