Interleukin-7 Receptor Alpha (IL7R) ELISA Kit for Mouse

PRODUCT OVERVIEW

Product Name	Interleukin-7 Receptor Alpha (Il7r), ELISA Kit
Full Product Name	Mouse Interleukin-7 Receptor Alpha ELISA Kit
Product Gene Name	Il7r elisa kit
Species Reactivity	Mouse
Assay Type	sandwich
Samples	cell culture supernates and serum
Detection Range	312pg/ml-20000pg/ml
Sensitivity	<10pg/ml
Preparation and Storage	Store at 4 degree C for 6 months, at -20 degree C for 12 months. Avoid multiple freeze-thaw cycles. (Shipped with wet ice)
Molecular Weight	51,605 Da
3D Structure	ModBase 3D Structure for P16872
Detection Target	Interleukin-7 Receptor Alpha
Immunogen Sequence	369
Cross-Reactivity	There is no detectable cross-reactivity with other relevant proteins.
Related Product Information for Il7r elisa kit	This Mouse Interleukin-7 Receptor Alpha ELISA Kit is intended for quantitative detection of mouse IL7R in cell culture supernates and serum. Strip well format. Reagents for up to 96 tests. This mouse IL7R ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for IL7R has been precoated onto 96-well plates. Standards (NSO, E21-D239) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for IL7R is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the mouse IL7R amount of sample captured in plate. The capture antibody is a monoclonal antibody from rat, the detection antibody is a biotinylated polyclonal antibody from goat. Expression system for standard: The interleukin-7 receptor (IL7R) is a protein found on the surface of cells. It is mapped to 5p13.2. The protein encoded by this gene is a receptor for interleukine 7 (IL7). The function of this receptor requires the interleukin 2 receptor, gamma chain (IL2RG), which is a common gamma chain shared by the receptors of various cytokines, including interleukine 2, 4, 7, 9, and 15. IL7R has been shown to play a critical role in the development of immune cells called lymphocytes-specifically in a process known as V (D)J recombination. This protein is also found to control the accessibility of a region of the genome that contains the T-cell receptor gamma gene, by STAT5 and histone acetylation. What's more, IL7R antagonism is efficacious in treatment of EAE through its effects on Th17 cells and is a potential treatment for MS.
Other Notes	Small volumes of Il7r elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for Il7r purchase	MBS8420693 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Interleukin-7 Receptor Alpha (Il7r) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing Il7r. The ELISA analytical biochemical technique of the MBS8420693 kit is based on Il7r antibody-Il7r antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect Il7r antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, Il7r. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Il7r. It may not necessarily be applicable to this product.

NCBI GI #	341940827
NCBI GeneID	16197
NCBI Accession #	P16872.2
UniProt Primary Accession #	P16872
UniProt Secondary Accession #	Q9R0C1
UniProt Related Accession #	P16872
NCBI Official Full Name	Interleukin-7 receptor subunit alpha
NCBI Official Synonym Full Names	interleukin 7 receptor
NCBI Official Symbol	Il7r
NCBI Official Synonym Symbols	CD127; IL-7Ralpha
UniProt Protein Name	Interleukin-7 receptor subunit alpha
UniProt Synonym Protein Names	CD_antigen: CD127
Protein Family	Interleukin-7 receptor
UniProt Gene Name	Il7r
UniProt Synonym Gene Names	IL-7 receptor subunit alpha; IL-7R subunit alpha; IL-7R-alpha; IL-7RA
UniProt Entry Name	IL7RA_MOUSE
NCBI Protein Information	interleukin-7 receptor subunit alpha; IL-7RA; IL-7R-alpha; IL-7R subunit alpha; IL-7 receptor alpha chain; IL-7 receptor subunit alpha; interleukin 7 receptor alpha chain
NCBI Summary for Il7r	Interleukin-7 is a glycoptorein involved in the regulation of lymphopoiesis. Response of cells to IL7 is dependent on the presence of the interleukin 7 receptor (IL7R); the active receptor is a alpha/gamma chain heterodimer. The gamma(c) chain, which also associates with the interleukin-2 receptor, serves primarily to activate signal transduction by the IL7R complex, while the alpha chain of IL7R determines specific signaling events through its association with cytoplasmic signaling molecules. [provided by RefSeq, Jul 2008]

UniProt Comments for Il7r	IL7R: Receptor for interleukin-7. Also acts as a receptor for thymic stromal lymphopoietin (TSLP). Defects in IL7R are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell- positive/NK-cell-positive (T(-)B(+)NK(+) SCID). A form of severe combined immunodeficiency (SCID), a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients present in infancy recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development. Genetic variations in IL7R are a cause of susceptibility to multiple sclerosis type 3 (MS3). A multifactorial, inflammatory, demyelinating disease of the central nervous system. Sclerotic lesions are characterized by perivascular infiltration of monocytes and lymphocytes and appear as indurated areas in pathologic specimens (sclerosis in plaques). The pathological mechanism is regarded as an autoimmune attack of the myelin sheat, mediated by both cellular and humoral immunity. Clinical manifestations include visual loss, extra-ocular movement disorders, paresthesias, loss of sensation, weakness, dysarthria, spasticity, ataxia and bladder dysfunction. Genetic and environmental factors influence susceptibility to the disease. A polymorphism at position 244 strongly influences susceptibility to multiple sclerosis. Overtransmission of the major 'C' allele coding for Thr-244 is detected in offspring affected with multiple sclerosis. In vitro analysis of transcripts from minigenes containing either 'C' allele (Thr-244) or 'T' allele (Ile-244) shows that the 'C' allele results in an approximately two-fold increase in the skipping of exon 6, leading to increased production of a soluble form of IL7R. Thus, the multiple sclerosis associated 'C' risk allele of IL7R would probably decrease membrane-bound expression of IL7R. As this risk allele is common in the general population, some additional triggers are probably required for the development and progression of MS. Belongs to the type I cytokine receptor family. Type 4 subfamily. 4 isoforms of the human protein are produced by alternative splicing. Protein type: Receptor, cytokine; Membrane protein, integral Cellular Component: membrane; integral to membrane; external side of plasma membrane Molecular Function: hematopoietin/interferon-class (D200-domain) cytokine receptor activity Biological Process: positive regulation of T cell differentiation in the thymus; B cell proliferation; negative regulation of T cell mediated cytotoxicity; homeostasis of number of cells; cell morphogenesis; immunoglobulin production; cell growth; lymph node development; regulation of cell size; T cell differentiation
Research Articles on Il7r	**1.** The development and survival but not function of follicular B cells is dependent on IL-7Ralpha Tyr449 signaling.
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