abcam

Product datasheet

Anti-IL7R alpha (phospho Y449) antibody ab73341

2 Images

Overview

Product name	Anti-IL7R alpha (phospho Y449) antibody
Description	Rabbit polyclonal to IL7R alpha (phospho Y449)
Host species	Rabbit
Specificity	ab73341 detects endogenous levels of IL7R alpha only when phosphorylated at tyrosine 449.
Tested applications	**Suitable for:** WB, ELISA, ICC/IF
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse
Immunogen	Synthetic phosphopeptide derived from human IL7R alpha around the phosphorylation site of tyrosine 449 (EAY^{P}VT)
Positive control	HeLa cell extract. HUVEC cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 50% Glycerol, PBS (without Mg^{2+} and Ca^{2+}), 150mM Sodium chloride, pH 7.4
Purity	Immunogen affinity purified
Purification notes	ab73341 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab73341** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/1000. Detects a band of approximately 60 kDa (predicted molecular weight: 52 kDa).
ELISA		1/5000.
ICC/IF		1/500 - 1/1000.

Target

Function

Receptor for interleukin-7. Also acts as a receptor for thymic stromal lymphopoietin (TSLP).

Involvement in disease

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) [MIM:608971]. 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) [MIM:612595]. 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. Note=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.

Sequence similarities

Belongs to the type I cytokine receptor family. Type 4 subfamily.
Contains 1 fibronectin type-III domain.

Domain

The WSXWS motif appears to be necessary for proper protein folding and thereby efficient intracellular transport and cell-surface receptor binding.
The box 1 motif is required for JAK interaction and/or activation.

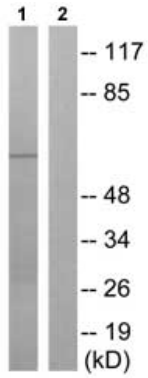
Post-translational modifications

N-glycosylated IL-7Ralpha binds IL7 300-fold more tightly than the unglycosylated form.

Cellular localization

Secreted and Cell membrane.

Images



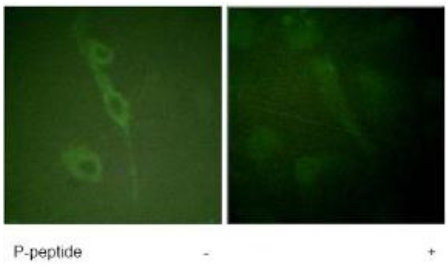
Western blot - IL7R alpha (phospho Y449) antibody (ab73341)

All lanes : Anti-IL7R alpha (phospho Y449) antibody (ab73341) at 1/500 dilution

Lane 1 : HeLa cell extract
Lane 2 : HeLa cell extract with immunising phosphopeptide at 10 µg

Lysates/proteins at 30 µg per lane.

Predicted band size: 52 kDa
Observed band size: 60 kDa



Immunocytochemistry/ Immunofluorescence - IL7R alpha (phospho Y449) antibody (ab73341)

Immunofluorescence analysis of IL7R alpha in HUVEC cells using ab73341 at 1/500 dilution in the presence (right panel) or absence (left panel) of immunising phosphopeptide.

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