

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-21 R in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human IL-21 R or recombinant mouse IL-2 Rβ is observed.
Source	Monoclonal Rat IgG ₁ Clone # 155516
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant mouse IL-21 R Cys20-Pro236 Accession # Q9JHX3
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

IL-21 R (interleukin-21 receptor) is a type I transmembrane glycoprotein within the class I cytokine receptor family, type 4 subfamily (1-5). Complex formation between IL-21 R and the common γ chain (γ_c), also used for IL-2, IL-4, IL-7, IL-9, IL-13 and IL-15 receptors, is required for signaling (6, 7). Mouse IL-21 R cDNA encodes 521 amino acid (aa) including a 19 aa signal peptide, a 218 aa extracellular domain (ECD) with 4 conserved cysteine residues, a fibronectin type III domain, and a WSXWS motif, a 21 aa transmembrane domain and a 271 aa cytoplasmic domain with a Box 1 motif, a kinase domain, and several sites for tyrosine phosphorylation (4, 5). One such site, pY510, mediates STAT binding (1, 2). The mouse IL-21 R ECD shares 69%, 91%, 65%, 63% and 58% aa identity with human, rat, equine, canine and bovine IL-21 R, respectively. One potential 447 aa isoform, with an alternate start site at aa 83, lacks the four conserved ECD cysteines. IL-21 R is expressed mainly on B cells (highest on mature, activated, follicular and germinal center B cells), NK cells, and activated T cells, but is also found on dendritic cells, alternatively activated macrophages, intestinal lamina propria fibroblasts and epithelial cells, and keratinocytes (1, 3-5). Both IL-21 and IL-4 are necessary for efficient B cell IgG1 production and normal germinal center architecture (8). B cell IL-21 R engagement induces Blimp-1 (which mediates plasma cell differentiation), and is important for memory responses (1, 9, 10). IL-21 R engagement on mouse NK cells enhances their cytotoxic activity and IFN-γ production (4, 11). IL-21 R engagement on CD8⁺ T cells aids control of viral infection and tumor growth; IL-21 R is also necessary for sufficient numbers of regulatory T cells to combat chronic inflammation (1, 12, 13). IL-21 R expression is often upregulated in allergic skin inflammation, systemic lupus erythematosus and diffuse large B cell lymphoma (DLBCL) (1, 2, 14, 15).

PRODUCT SPECIFIC NOTICES

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