

DESCRIPTION

Species Reactivity	Canine
Specificity	Detects canine IL-21 in direct ELISAs. In direct ELISAs, approximately 35% cross-reactivity with recombinant human IL-21 is observed, and less than 3% cross-reactivity with recombinant mouse IL-21 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant canine IL-21 His18-Ser146 Accession # NP_001003347
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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.

Neutralization 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

Interleukin-21 (IL-21) is a 14 kDa (predicted) four-helix-bundle cytokine and member of the IL-15/IL-21 family. It is made by activated CD4⁺ T cells, activated NKT cells, T helper (Th) cells, and Th17 cells (1-5). Canine IL-21 is synthesized as a 146 amino acid (aa) precursor that contains a 17 aa signal sequence and a 129 aa mature chain. Mature canine IL-21 is 86%, 73%, 66%, and 64% aa identical to mature bovine, human, mouse and rat IL-21, respectively. IL-21 binds to a heterodimeric receptor, which is formed by the common γ-chain subunit (CD134), shared with IL-2, IL-4, IL-7, IL-9, IL-13, and IL-15 receptors, and its own receptor, IL-21 R, a member of the class I cytokine receptor family (1-2). IL-21 R is expressed on a variety of immune cells, including B cells, T cells, dendritic cells, and NK cells, as well as non-immune cells, such as fibroblasts, epithelial cells, and endothelial cells (1-2, 5). Binding of IL-21 to its receptor leads to the activation of members of the JAK-family protein tyrosine kinases, JAK1 and JAK3, and signal transducer and activator of transcription (Stat) molecules (1). IL-21 regulates activation, proliferation, and survival of both CD4⁺ T cells and B cells, the functional activity of CD8⁺ T cells and NK cells, and limits the differentiation of inducible regulatory T cells and counteracts their suppressive properties on effector T cells (1, 5-6). IL-21 also negatively regulates the maturation and function of dendritic cells (1, 5-6). IL-21 also plays a role in many inflammatory and autoimmune diseases, such as Crohn's disease, *Helicobacter pylori*-related gastritis, celiac disease, type I diabetes mellitus, psoriasis, rheumatoid arthritis, and systemic lupus erythematosus (1). IL-21 is also involved in controlling chronic viral infections (7).

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