

**Anti-Bovine IL-21 (RABBIT) Antibody**  
**IL-21 Antibody**  
**Catalog # ASR4425**

**Specification**

---

**Anti-Bovine IL-21 (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Bovine
Reactivity	Pig, Bovine, Horse
Clonality	Polyclonal
Application	WB, E, I, LCI
Application Note	IL-21 is expressed in activated CD4-positive T-cells but not in CD8-positive T-cells, B-cells, or monocytes, and in HL-60 and THP-1 cell lines. This protein-A purified antibody has been tested for use in ELISA and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 15.1 kDa in size corresponding to bovine IL-21 protein by western blotting in the appropriate cell lysate or extract.
Physical State	Lyophilized
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	This protein-A purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a recombinant protein raised in yeast, corresponding to amino acid residues 24-152 of bovine IL-21 protein.
Reconstitution Volume	100 µL
Reconstitution Buffer	Restore with deionized water (or equivalent)
Preservative	0.01% (w/v) Sodium Azide

**Anti-Bovine IL-21 (RABBIT) Antibody - Additional Information**

**Gene ID** 378475

**Other Names**  
378475

**Purity**

This product was Protein-A purified from monospecific antiserum by chromatography. This antibody is specific for bovine IL-21 protein. A BLAST analysis was used to suggest cross-reactivity with IL-21 from bovine sources based on 100% homology with the immunizing sequence. Based on 92% homology, there is a chance of cross-reactivity to porcine IL- 21, 91% to horse IL-21, 89% to human and dog, 88% to macaque, 84% to platypus and Syrian hamster, 76-79% to mouse, 75% to

rat, and 48% to chicken. Cross-reactivity with IL-21 from other sources has not been determined.

#### **Storage Condition**

Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

#### **Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

### **Anti-Bovine IL-21 (RABBIT) Antibody - Protein Information**

**Name** IL21

#### **Function**

Cytokine with immunoregulatory activity. May promote the transition between innate and adaptive immunity. Induces the production of IgG(1) and IgG(3) in B-cells. Implicated in the generation and maintenance of T follicular helper (Tfh) cells and the formation of germinal-centers. Together with IL6, control the early generation of Tfh cells and are critical for an effective antibody response to acute viral infection (By similarity). May play a role in proliferation and maturation of natural killer (NK) cells in synergy with IL15. May regulate proliferation of mature B- and T-cells in response to activating stimuli. In synergy with IL15 and IL18 stimulates interferon gamma production in T-cells and NK cells (By similarity). During T-cell mediated immune response may inhibit dendritic cells (DC) activation and maturation (By similarity).

#### **Cellular Location**

Secreted.

#### **Tissue Location**

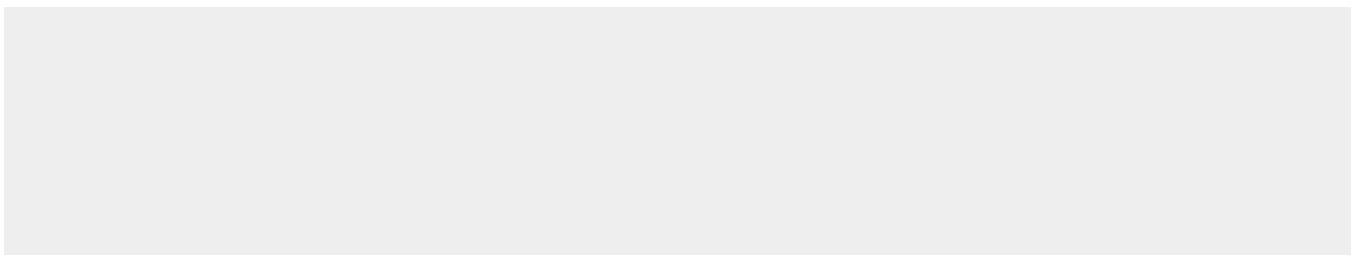
Expressed in spleen, but not in the brain, heart, kidney, liver, and lung.

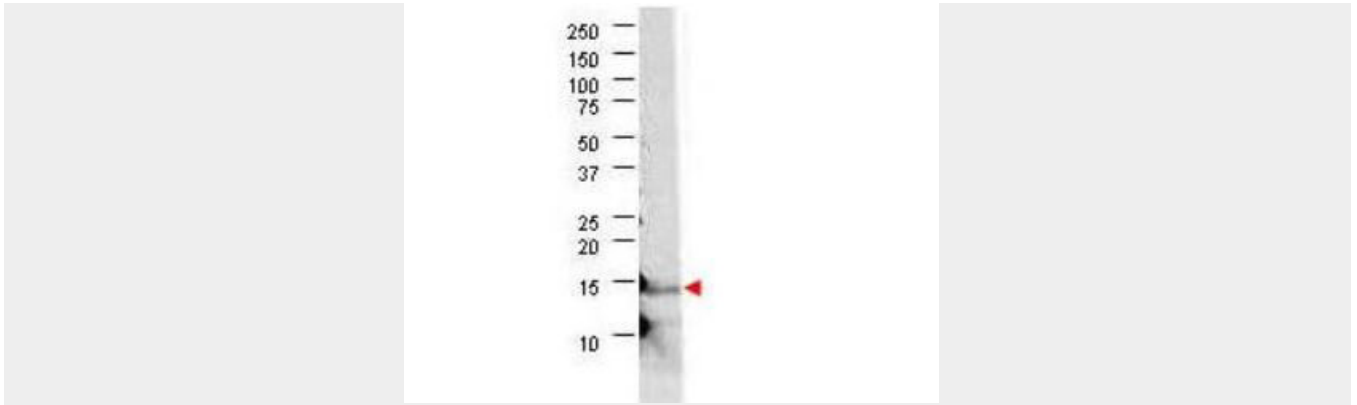
### **Anti-Bovine IL-21 (RABBIT) Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **Anti-Bovine IL-21 (RABBIT) Antibody - Images**





Western blot using Rockland's anti-bovine IL-21 antibody shows detection of recombinant bovine IL-21 at 15.1kDa (arrow) raised in yeast. Protein was purified and resolved by SDS-PAGE, transferred to PVDF membrane. Membrane was blocked with 3% BSA (BSA-30, diluted 1:10), and probed with Rockland's, Inc. Anti-bovine IL-21. After washing, membrane was probed with Dylight™ 649 Conjugated Anti-Rabbit IgG (H&L) (Donkey) Antibody (611-743-127).

### **Anti-Bovine IL-21 (RABBIT) Antibody - Background**

Interleukin-21 (IL-21) is a secreted, type-I cytokine with immunoregulatory activity. Human IL-21 shares the common gamma-chain with IL-2, IL-4, IL-7, IL-9, and IL-15 proteins but, in addition, binds to a unique IL-21R alpha chain which triggers a cascade of events which includes activation of the tyrosine kinases JAK1 and JAK3, followed by activation of the transcription factors STAT1 and STAT3. Bovine and human IL-21 have pleiotropic functions and are mainly produced by activated T-cells in response to antigenic stimulation, but target a broad range of lymphoid and myeloid cells of the immune system (T cells, B cells, natural killer (NK) cells and dendritic cells). IL21 is therefore able to regulate innate and acquired immune responses. The biological effects of IL-21 include induction of differentiation, maturation, and proliferation of T-cells-stimulated B-cells into plasma cells and memory B-cells, stimulation (in conjunction) with IL-4 of IgG production, and induction of apoptotic effects in naive B-cells and stimulated B-cells in the absence of T-cell signaling. Human IL-21 has also been shown to promote the anti-tumor activity of CD8+ T-cells and NK cells. During T-cell mediated immune response, IL21 may inhibit dendritic cells' (DC) activation and maturation. In synergy with IL15 and IL18, IL21 stimulates interferon gamma production in T-cells and NK cells; with the IL15, it may play a role in proliferation and maturation of natural killer (NK) cells.

The open reading frame of the bovine IL-21 cDNA is 459 bp in length and encodes 152 amino acids. The predicted amino acid sequence is 78-81% and 58-67% homologous to the predicted human and murine IL-21 amino acid sequences, respectively. In one study, recombinant bovine IL-21 strongly induced NK cell proliferation using a human NK cell-line, NK0, and enhanced the lymphokine activated killer (LAK) activity of bovine peripheral blood mononuclear cells. In another by the same authors, recombinant bovine mature IL-21 induced the proliferation of human IL-2-dependent cells, ILT-MAT. Anti-IL-21 antibody is ideal for investigators involved in Cancer and Immunology research.