

Datasheet for 200-401-B53S**IL-21 Antibody****Overview**

Description:	Anti-Bovine IL-21 (RABBIT) Antibody - 200-401-B53S
Item No.:	200-401-B53S
Size:	25 µL
Applications:	ELISA, WB
Reactivity:	Bovine, Horse, Pig
Host Species:	Rabbit

Product Details**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-IL21 antibody is ideal for investigators involved in Cancer and Immunology research.

Synonyms:	rabbit anti-IL21 Antibody, Interleukin-21, IL-21, Interleukin21, Interleukin 21, IL 21
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	IL21
Reactivity:	Bovine, Horse, Pig
Immunogen Type:	Recombinant Protein
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.
Purity/Specificity:	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.
Relevant Links:	• UniProtKB - Q76LU5 • NCBI - Q76LU5.2 • GeneID - 378475

Application Details

Tested Applications:	ELISA, WB
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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:6,000
WB:	1 µg/mL

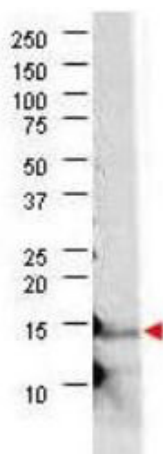
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is three (3) months from date of receipt.

Images



Western Blot

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).

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.