

DESCRIPTION

Species Reactivity	Bovine
Specificity	Detects bovine IL-2 in ELISAs and Western blots. In sandwich immunoassays, less than 0.2% cross-reactivity with recombinant human IL-2, recombinant mouse IL-2, recombinant rat IL-2, recombinant feline IL-2, recombinant canine
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant bovine IL-2 Ala21-Thr155 Accession # P05016
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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	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

Bovine Interleukin-2 (IL-2) is a 15 kDa, α -helical, single chain, potentially glycosylated polypeptide that has potent stimulatory activity for antigen-activated T cells (1-5). The molecule is synthesized as a 155 amino acid (aa) precursor that contains a 20 aa signal peptide plus a 135 aa mature segment that is possibly O-glycosylated (4, 5). The mature region has multiple α -helices and one intrachain disulfide bond. Mature bovine IL-2 is 64%, 60%, 49%, 50%, 72%, 63% and 67% to mature human, canine, mouse, rat, porcine, equine, and feline IL-2, respectively. Mammalian cells known to express IL-2 include CD4⁺ and CD8⁺ T cells, visceral smooth muscle cells, eosinophils, $\gamma\delta$ T cells, B cells and dendritic cells. The receptor for IL-2 is complex and consists of three distinct subunits in varying combinations (6, 7). Two of these are ligand-binding and are termed IL-2 R α and IL-2 R β . IL-2 R α is 55 kDa and binds IL-2 with low affinity. IL-2 R β is 75 kDa and binds IL-2 with intermediate affinity. Signal transduction is performed by both IL-2 R β and a 64 kDa common gamma chain (γ_c). This signal transducing common gamma chain does not bind IL-2, but does heterodimerize with IL-2 R β to form a functional IL-2 receptor. The complex heterotrimeric α - β - γ_c receptor may arise from IL-2 binding to preformed R α -R β complexes (8). Functionally, IL-2 is best known for its autocrine and paracrine activity on T cells. It drives resting T cells into active G1, inducing IL-2 and IL-2 R α synthesis and cell proliferation (7). It also promotes Fas-induced death of naïve CD4⁺ T cells, while having minimal effect on activated CD4⁺ memory lymphocytes. Finally, IL-2 seems to play a central role in the expansion and maintenance of CD4⁺ CD25⁺ regulatory T cells. Thus, IL-2 may be a key cytokine in the natural suppression of autoimmunity (9, 10).

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