Bovine IFN-γ PE-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 345025

Catalog Number: IC2300P

100 TESTS

DESCRIPTION

Species Reactivity	Bovine
Specificity	Detects bovine IFN-γ in direct ELISAs and Western blots. In Western blots, 100% cross-reactivity with IFN-γ from equine, canine, or feline systems is observed and no cross-reactivity with human, cotton rat, mouse, porcine, or rat IFN-γ is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 345025
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant bovine IFN-γ Gln24-Thr166 Accession # NP_776511
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

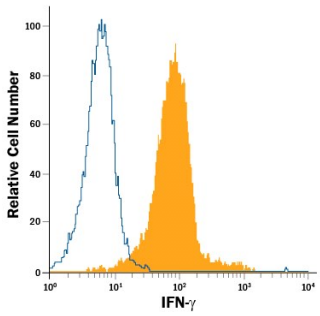
APPLICATIONS

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.*

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Intracellular Staining by Flow Cytometry



Detection of IFN-γ in Bovine PBMCs by Flow Cytometry. Bovine peripheral blood mononuclear cells were stained with Rat Anti-Bovine IFN-γ PE-conjugated Monoclonal Antibody (Catalog # IC2300P, filled histogram) or isotype control antibody (Catalog # IC006P, open histogram). View our protocol for Staining Intracellular Molecules.

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.

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BACKGROUND

Interferon-gamma (IFN-γ), also known as type II or immune interferon, exerts a wide range of immunoregulatory activities and is considered to be the prototype proinflammatory cytokine (1, 2). Mature bovine IFN-γ exists as a noncovalently linked homodimer of 20-25 kDa variably glycosylated subunits (3). It shares 78%-80% amino acid (aa) sequence identity with canine, feline, equine, and porcine IFN-γ and 42%-59% with cotton rat, human, mouse, rat, and rhesus IFN-γ. IFN-γ dimers bind to IFN-γ RI (alpha subunits) which then interact with IFN-γ RII (beta subunits) to form the functional receptor complex of two α and two β subunits. Inclusion of IFN-γ RII increases the binding affinity for ligand and the efficiency of signal transduction (4, 5). IFN-γ is produced by a variety of immune cells including monocytes, NK cells, γδ T cells, $CD8^+$ Tcells, multiple T cell subsets (inlcuding Th1, $CCR7^-$ T_{EM} and $CD103^+CD69^+$ T_{RM} cells) plus proinflammatory FoxP3 regulatory T cells (6-12). It plays a key role in host defense by promoting the development and activation of Th1 cells, chemoattraction and activation of monocytes and macrophages, upregulation of antigen presentation molecules, and immunoglobulin class switching in B cells. It also exhibits antiviral, antiproliferative, and apoptotic effects (6, 13, 14). In addition, IFN-γ functions as an anti-inflammatory mediator by promoting the development of regulatory T cells and inhibiting Th17 cell differentiation (15, 16). The pleiotropic effects of IFN-γ contribute to the development of multiple aspects of atherosclerosis (7). Finally, IFN-γ regulates blood cell production, particularly during immune challenge. In particular, IFN-γ appears to promote monocyte production while depressing neutrophil, B cell and eosinophil production (17).

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