Bovine IFN-γ Alexa Fluor® 647-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 345025

Catalog Number: IC2300R

100 µg

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	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL 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	0.25-1 µg/10^6 cells	Bovine peripheral blood mononuclear cells treated with PMA and Calcium Ionomycin, fixed with paraformaldehyde, and permeabilized with saponin

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

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 under inflammatory conditions, notably by T cells and NK cells (6). It plays a key role in host defense by promoting the development and activation of Th1 cells, chemoattraction and activation of monocytes and macrophages, up-regulation of antigen presentation molecules, and immunoglobulin class switching in B cells. It also exhibits antiviral, antiproliferative, and apoptotic effects (6, 7). In addition, IFN-γ functions as an anti-inflammatory mediator by promoting the development of regulatory T cells and inhibiting Th17 cell differentiation (8, 9). The pleiotropic effects of IFN-γ contribute to the development of multiple aspects of atherosclerosis (7).

References:

1. Billiau, A. and P. Matthys (2009) Cytokine Growth Factor Rev. **20**:97.
2. Pestka, S. *et al.* (2004) Immunol. Rev. **202**:8.
3. Cerretti, D.P. *et al.* (1986) J. Immunol. **136**:4561.
4. Marsters, S.A. *et al.* (1995) Proc. Natl. Acad. Sci. **92**:5401.
5. Krause, C.D. *et al.* (2000) J. Biol. Chem. **275**:22995.
6. Schroder, K. *et al.* (2004) J. Leukoc. Biol. **75**:163.
7. McLaren, J.E. and D.P. Ramji (2009) Cytokine Growth Factor Rev. **20**:125.
8. Muhl, H. and J. Pfeilschifter (2003) Int. Immunopharmacol. **3**:1247.
9. Kelchtermans, H. *et al.* (2008) Trends Immunol. **29**:479.

PRODUCT SPECIFIC NOTICES

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449