Human IFN-γ Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 25718

Catalog Number: IC2851T

25 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IFN-γ in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse IFN-γ, recombinant rat IFN-γ, or recombinant porcine IFN-γ is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 25718
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human IFN-γ Gln24-Gln166 Accession # AAP20098.1
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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.

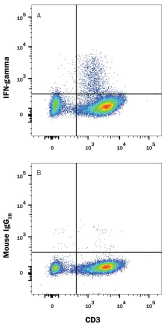
APPLICATIONS

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	5 µL/10^6 cells	See Below

DATA

Intracellular Staining by Flow Cytometry



Detection of IFN-γ in Human PBMCs by Flow Cytometry. Human peripheral blood mononuclear cells (PBMCs) treated with 50 ng/mL PMA, 1 µg/mL Ionomycin, and 3 µM Monensin overnight were stained with Mouse Anti-Human CD3ε APC-conjugated Monoclonal Antibody (Catalog # FAB100A) and either (A) Mouse Anti-Human IFN-γ Alexa Fluor® 594-conjugated Monoclonal Antibody (Catalog # IC2851T) or (B) Mouse IgG_{2A} Alexa Fluor® 594 Isotype Control (Catalog # IC003T). To facilitate intracellular staining, cells were fixed and permeabilized with FlowX FoxP3 Fixation & Permeabilization Buffer Kit (Catalog # FC012) . 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 human IFN-γ exists as a non-covalently linked homodimer of 20-25 kDa variably glycosylated subunits (3). It shares 90% amino acid (aa) sequence identity with rhesus IFN-γ, 59-64% with bovine, canine, equine, feline, and porcine IFN-γ, and 37-43% with cotton rat, mouse, and rat 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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