Human IL-29/IFN-λ1 Antibody

Monoclonal Mouse IgG_{2A} Clone # 247801

Catalog Number: MAB15981

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-29/IFN-λ1 in ELISAs. In sandwich immunoassays, 100% cross-reactivity with recombinant human (rh) IL-28B/IFN-λ3 and 20% with rhIL-28A is observed. No cross-reactivity or interference was observed with rhIFN-αA, rhIFN-αB2, rhIFN-αG, rhIFN-αI, or rhIFN-β1A.
Source	Monoclonal Mouse IgG_{2A} Clone # 247801
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-29/IFN-λ1 Gly20-Thr200 Accession # Q8IU54
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

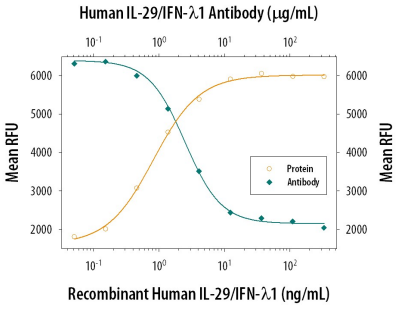
APPLICATIONS

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.*

IL-29/IFN-λ1 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human IL-29/IFN-λ1 Antibody (Catalog # MAB15981)
ELISA Detection	0.1-0.4 µg/mL	Human IL-29/IFN-λ1 Biotinylated Antibody (Catalog # BAF1598)
Standard		Recombinant Human IL-29/IFN-λ1 (Catalog # 1598-IL)
Neutralization	Measured by its ability to neutralize IL-29/IFN-λ1 inhibition of EMCV-induced cytopathy in the HepG2 human hepatocellular carcinoma cell line. Sheppard, P. *et al.* (2003) Nat. Immunol. **4**:63. The Neutralization Dose (ND_{50}) is typically 1-4 µg/mL in the presence of 40 ng/mL Recombinant Human IL-29/IFN-λ1.	

DATA

Neutralization



IL-29/IFN-λ1 Inhibition of EMCV-induced Cytopathy and Neutralization by Human IL-29/IFN-λ1 Antibody. Recombinant Human IL-29/IFN-λ1 (Catalog # 1598-IL) reduces the Encephalomyocarditis Virus (EMCV)-induced cytopathy in the HepG2 human hepatocellular carcinoma cell line in a dose-dependent manner (orange line). Inhibition of EMCV activity elicited by Recombinant Human IL-29/IFN-λ1 (40 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human IL-29/IFN-λ1 Monoclonal Antibody (Catalog # MAB15981). The ND_{50} is typically 1-4 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

IL-28A, IL-28B, and IL-29, also named interferon-λ2 (IFN-λ2), IFN-λ3, and IFN-λ1, respectively, are class II cytokine receptor ligands that are distantly related to members of the IL-10 family (11-13% aa sequence identity) and the type I IFN family (15-19% aa sequence identity) (1-3). The genes encoding these three cytokines are localized to chromosome 19 and each is composed of multiple exons. The exon organization of these genes is also found in the IL-10 family genes but is distinct from the type I IFNs, which are encoded within a single exon, The expression of IL-28A, B, and IL-29 is induced by virus infection or double-stranded RNA. All three cytokines exert bioactivities that overlap those of type I IFNs, including antiviral activity and up-regulation of MHC class I antigen expression. The three proteins signal through the same heterodimeric receptor complex that is composed of the IL-10 receptor β (IL-10 Rβ) and a novel IL-28 receptor α (IL-28 Rα, also known as IFN-λ R1). Ligand binding to the receptor complex induces Jak kinase activation and STAT1 and STAT2 tyrosine phosphorylation. The phosphorylated STAT1 and STAT2 complex with IFN-regulatory factor 9 (IRF-9) to form the IFN-stimulated regulatory factor 3 (ISGF-3) transcription factor complex that is translocated to the nucleus. ISGF-3 binds to the IFN-stimulated response element (ISRE) present in the regulatory region of the target genes. Human IL-29 cDNA encodes a 200 amino acid (aa) residue precursor protein with a putative 19 aa signal peptide and a 181 aa mature protein, which is a monomer in solution. It shares 67% and 69% aa sequence identity with human IL-28A and IL-28B, respectively.

References:

1. Vilcek, J. (2003) Nature Immunol. **4**:8.
2. Sheppard, P. *et al.* (2003) Nature Immunol. **4**:63.
3. Kotenko, S.V. *et al.* (2003) Nature Immunol. **4**:69.

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