

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-29 in direct ELISAs and Western blots. In Western blots, this antibody shows approximately 5%-10% cross-reactivity with rhIL-28.
Source	Monoclonal Mouse IgG _{2A} Clone # 247802
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-29 Gly20-Thr200 Accession # Q8IU54
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

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
Western Blot	1 µg/mL	Recombinant Human IL-29/IFN-λ1 (Catalog # 1598-IL)

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.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

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.