

**General Information**

Synonyms	Human IL29; IFNL1; IFN-lambda 1; IFN-lambda-1; IL29; IL-29; interferon lambda-1
Accession #	Q8IU54
Source	Human embryonic kidney cell, HEK293-derived human IL-29/IFN-lambda 1 protein
	Gly20-Thr200
Predicted Molecular weight	20.0 kDa

**Components and Storage**

Formulation	Solution protein. Dissolved in sterile PBS buffer .
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.

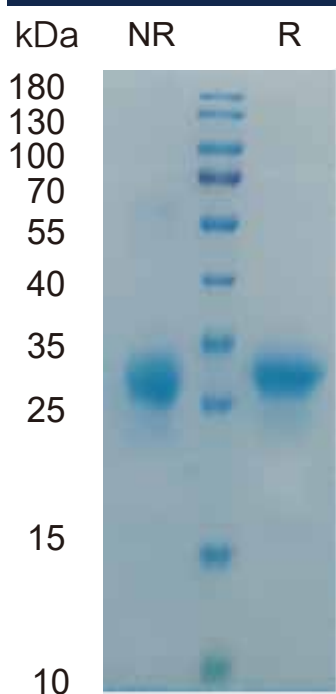
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
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Shipping	Shipping with dry ice.
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**Quality**

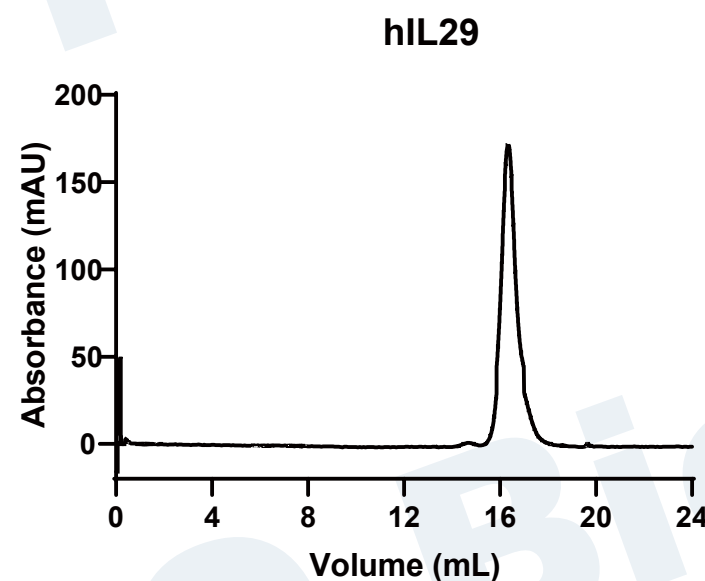
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. The EC50 for this effect is 1-5 ng/mL.

**SDS-PAGE**



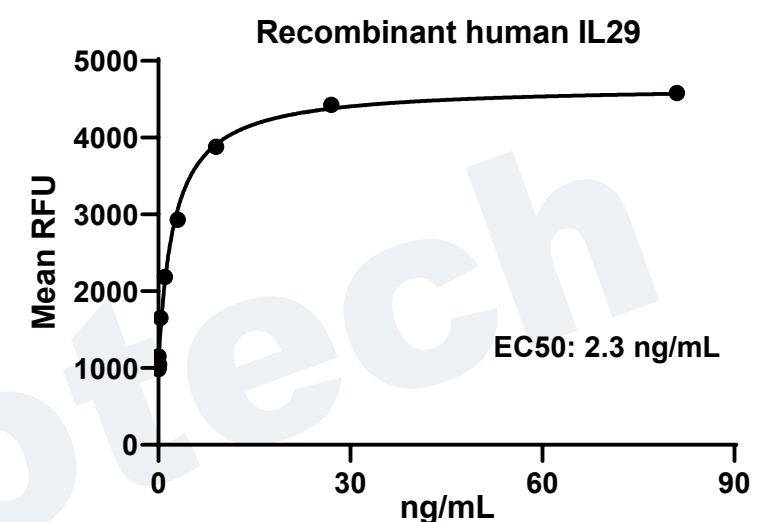
2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

**Gel filtration**



Size-exclusion chromatography of recombinant human IL29 protein (280 nm absorbance)

**Bioactivity**



Recombinant human IL29 (Catalog # HF-1029) anti-viral activity using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus.

**Background**

**Interleukin-29(IL-29/IFN-lambda 1)**, IL-28A and IL-28B, also named interferon-lambda 2 (IFN-lambda 2), IFN-lambda 3, and IFN-lambda 1, 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 beta (IL-10 R beta) and a novel IL-28 receptor alpha (IL-28 R alpha, also known as IFN-lambda 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.

**Reference**

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.

**Contact us**



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