

## DESCRIPTION

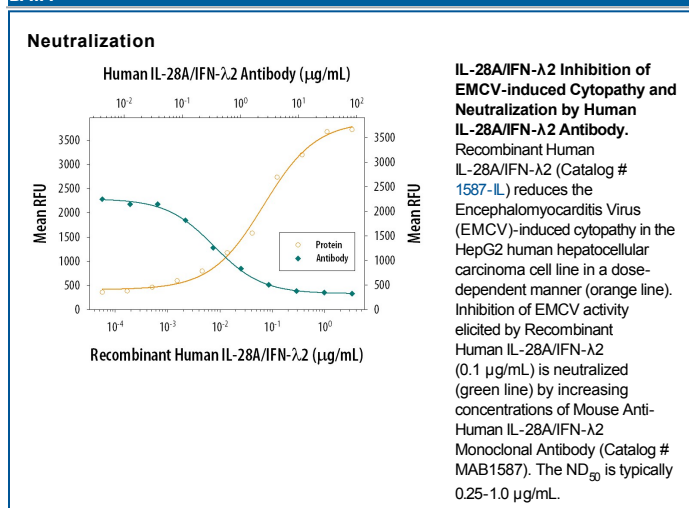
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-28A/IFN- $\lambda$ 2 in direct ELISAs. In direct ELISAs, 83% cross-reactivity with recombinant human (rh) IL-28B/IFN- $\lambda$ 3 and no cross-reactivity with recombinant mouse IL-28B/IFN- $\lambda$ 3 or rhIL-29/IFN- $\lambda$ 1 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 248526
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human IL-28A/IFN- $\lambda$ 2 Val26-Val200 Accession # Q8IZJ0
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m 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.

<b>Neutralization</b>	Measured by its ability to neutralize IL-28A/IFN- $\lambda$ 2 inhibition of EMCV-induced cytopathy in the HepG2 human hepatocellular carcinoma cell line. Sheppard, P. <i>et al.</i> (2003) <i>Nat. Immunol.</i> 4:63. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.25-1.0 $\mu$ g/mL in the presence of 0.1 $\mu$ g/mL Recombinant Human IL-28A/IFN- $\lambda$ 2.
-----------------------	--

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

IL-28A, IL-28B, and IL-29, 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 type I IFN family (15-19% aa sequence identity) (1-3). 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 regions of the target genes. Human IL-28A cDNA encodes a 200 amino acid (aa) residue precursor protein with a 25 aa signal peptide. It shares 94% and 67% aa sequence identity with human IL-28B and human IL-29, 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.