

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human IL-28B/IFN- $\lambda$ 3 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-28A, rhIL-29, or recombinant mouse IL-28 is observed.                                                                        |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2A</sub> Clone # 567143                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Chinese hamster ovary cell line CHO-derived recombinant human IL-28B/IFN- $\lambda$ 3<br>Arg30-Val200 (Lys74Arg)<br>Accession # AAN28264                                                                                                                                    |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## 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

## BACKGROUND

IL-28B (also named interferon- $\lambda$ 3, IFN- $\lambda$ 3), IL-28A (IFN- $\lambda$ 2) and IL-29 (IFN- $\lambda$ 1) are type III interferons that are class II cytokine receptor ligands (1-4). They are distantly related to members of the IL-10 family and type I IFN family (1-4). Human IL-28B cDNA encodes a 200 amino acid (aa) protein with a 25 aa signal peptide and a 175 aa mature protein that lacks N-glycosylation sites. Mature human IL-28B shares 64% and 75% aa sequence identity with mouse and canine IL-28B, respectively, and is active across species (5). Human IL-28B shares 94% and 69% aa identity with human IL-28A and IL-29, respectively (4). Type III interferons are widely expressed, but are mainly produced by antigen presenting cells in response to viruses and double-stranded RNA that interact with Toll-like receptors or RIG-1 family helicases (2-6). They signal through a widely expressed receptor that is a heterodimer of the IL-10 receptor  $\beta$  (IL-10 R $\beta$ ) and IL-28 receptor  $\alpha$  (IL-28 R $\alpha$ ; also called IFN- $\lambda$  R1) (2, 3, 7, 9). Interaction of either type I or type III IFNs with their receptors activates similar pathways, including JAK tyrosine kinase activation, STAT phosphorylation and formation of the IFN-stimulated regulatory factor 3 (ISGF-3) transcription factor complex (1-3). Both type I and III IFNs induce anti-viral activity and upregulate MHC class I antigen expression (2-6). Cell lines responsive to type III IFNs are also responsive to type I IFNs, but in general, higher concentrations of type III IFNs are needed for similar *in vitro* responses (8). *In vivo*, however, type III IFNs enhance levels of IFN- $\gamma$  in serum, suggesting that the robust anti-viral activity of type III IFNs may stem in part from activation of the immune system (5, 7). Anti-proliferative and antitumor activity *in vivo* has also been shown for type III IFNs (9-11).

## PRODUCT SPECIFIC NOTICES

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