

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human IL-28 R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse IL-28 R $\alpha$ is observed.                                                                                                 |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human IL-28 R $\alpha$ /IFN- $\lambda$ R1<br>Arg21-Ala228<br>Accession # Q8IU57                                                                                                                                             |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 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.

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| <b>CyTOF-ready</b>    | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>Flow Cytometry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

IL-28 R $\alpha$  (IL-28 receptor alpha subunit; also named interferon- $\lambda$  R1) is a type I transmembrane glycoprotein that is the cytokine receptor family 2 member 12 (CRF2-12) (1-4). It pairs with the IL-10 receptor  $\beta$  subunit (IL-10 R $\beta$ , CRF2-4) to form the IL-28 R (1-4). Each subunit of this receptor can interact with the interferon-like cytokines (type III interferons) IL-28A (IFN- $\lambda$ 2), IL-28B (IFN- $\lambda$ 3) or IL-29 (IFN- $\lambda$ 1) (1-4). Human IL-28 R $\alpha$  cDNA encodes a 520 amino acid (aa) protein with a 20 aa signal peptide, a 208 aa extracellular domain (ECD) with a fibronectin type III motif and four potential N-glycosylation sites, a 21 aa transmembrane sequence, and a proline-rich and acidic 271 aa cytoplasmic domain. Eight isoforms have been sequenced, but their significance is unknown (3, 5). Isoforms of 211 and 244 aa appear to lack transmembrane sequences. These and other isoforms of 491, 437, 322, 283 and 184 aa have alternate N- or C-termini, or lack an internal sequence (aa 268-296). The mature human IL-28 R $\alpha$  ECD shares 67%, 66%, 78% and 74% aa sequence identity with mouse, rat, canine and bovine IL-28 R $\alpha$ , respectively. Some cross-species reactivity has been shown (6). IL-28 R is constitutively expressed in most tissues, but its ligands are mainly produced by antigen presenting cells in response to viruses and their products (2-6). Signaling through IL-28 R $\alpha$  is similar to that of receptors for type I IFNs, including tyrosine phosphorylation, activation of JAK tyrosine kinases, STAT phosphorylation and formation of the IFN-stimulated gene factor 3 (ISGF-3) transcription factor complex (1-7). This signaling pathway induces antiviral activity and up-regulates MHC class I antigen expression (2-7). Anti-proliferative activity has also been shown for IL-28/IL-28 R (7).

#### PRODUCT SPECIFIC NOTICES

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