

## DESCRIPTION

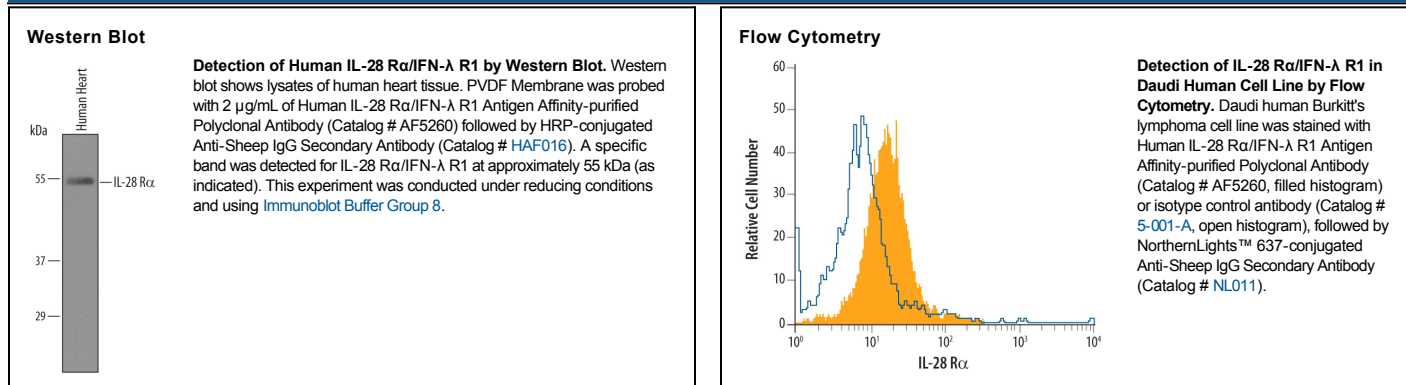
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-28 R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse IL-28 R $\alpha$ is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified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

	Recommended Concentration	Sample
<b>Western Blot</b>	2 $\mu$ g/mL	See Below
<b>Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 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>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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-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).

**References:**

1. Chen, Q. *et al.* (2006) *Vitam. Horm.* **74**:207.
2. Meager, A. *et al.* (2005) *Cytokine* **31**:109.
3. Sheppard, P. *et al.* (2003) *Nat. Immunol.* **4**:63.
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5. Entrez Accession # NP\_775088, EAW95113, EAW95115, EAW95116, AAI39723, AAI01409.
6. Lasfar, A. *et al.* (2006) *Cancer Res.* **66**:4468.
7. Dumoutier, L. *et al.* (2004) *J. Biol. Chem.* **279**:32269.