

**DESCRIPTION**

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-22 R $\alpha$ 1 in direct ELISAs and Western blots. Shows approximately 20% cross-reactivity with recombinant human (rh) IL-22 R and no cross-reactivity with rhIL-20 R $\alpha$ , rhIL-20 R $\beta$ , or recombinant mouse IL-22BP.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 496504
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse IL-22 R $\alpha$ 1 Thr18-Ala228 Accession # Q80XZ4
<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 either lyophilized or 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>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 $\mu$ g/mL	Recombinant Mouse IL-22 R $\alpha$ 1 (Catalog # 4294-MR)

**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**

The IL-22 receptor, also known as IL-22 R $\alpha$ 1 and CRF2-9, is an approximately 65 kDa type I transmembrane glycoprotein that belongs to the type II cytokine receptor family (CRF). IL-22 R $\alpha$ 1 contains a 211 amino acid (aa) extracellular domain (ECD) with two fibronectin type III repeats, and a 330 aa cytoplasmic domain (1). Within the ECD, mouse IL-22 R $\alpha$ 1 shares 78%, 78%, and 94% aa sequence identity with canine, human, and rat IL-22 R $\alpha$ 1, respectively. It shares 20% - 26% aa sequence identity with the ECDs of other class II receptors IL-10 R, IL-20 R, and IL-28 R. IL-22 R $\alpha$ 1 associates with either IL-10 R $\beta$  or IL-20 R $\beta$  to form receptor complexes with distinct ligand selectivities. IL-10 R $\beta$  is a shared subunit of the IL-10, -22, -26, -28, and -29 receptors, while IL-20 R $\beta$  is a shared subunit of the IL-19, -20, -22, and -24 receptors (2). IL-22 R $\alpha$ 1/IL-10 R $\beta$  is an IL-22 responsive receptor (3, 4), and IL-22 R $\alpha$ 1/IL-20 R $\beta$  is an IL-20 or IL-24 responsive receptor (5, 6). In both cases, IL-22 R $\alpha$ 1 functions as the high affinity ligand binding subunit, and subsequent association with IL-10 R $\beta$  or IL-20 R $\beta$  serves to stabilize the complex (3, 6 - 9). IL-22 R $\alpha$ 1 contains cytoplasmic motifs for interactions with signal transduction molecules, but association with IL-10 R $\beta$  or IL-20 R $\beta$  is required for signal transduction (3, 7). IL-22BP functions as a competitive antagonist by binding IL-22 and preventing its association with IL-22 R $\alpha$ 1 (8, 10). Even though it is a receptor for interleukins, IL-22 R $\alpha$ 1 is not expressed on hematopoietic cells (7, 11, 12). Instead, IL-22 R $\alpha$ 1 expression is restricted to epithelial and stromal cells (7, 11 - 14). IL-22 R $\alpha$ 1 signaling promotes innate immune responses and wound healing at sites of infection and inflammation. This includes upregulation of antimicrobial, acute phase, proinflammatory, and extracellular matrix proteins as well as proteases (4, 12, 14, 15). IL-22 R $\alpha$ 1 signaling also promotes downregulation of proteins involved in keratinocyte differentiation (4, 15).

**References:**

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