

## DESCRIPTION

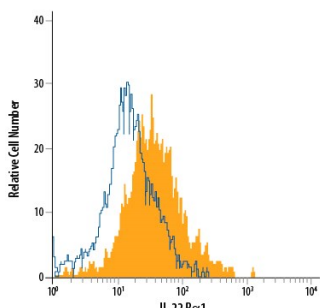
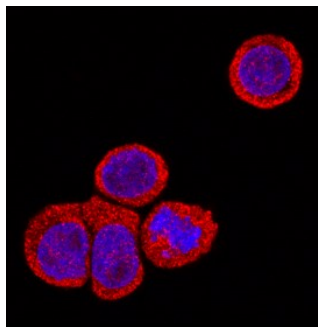
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-22 R $\alpha$ 1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-10, rhIL-22BP or rhIL-20 R $\alpha$ is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 305405
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human IL-22 R $\alpha$ 1 Pro18-Thr228 Accession # Q8N6P7
<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>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	See Below
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	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

<p><b>Flow Cytometry</b></p>  <p><b>Detection of IL-22 R<math>\alpha</math>1 in COLO 205 Human Cell Line by Flow Cytometry.</b> COLO 205 human colorectal adenocarcinoma cell line was stained with Mouse Anti-Human IL-22 R<math>\alpha</math>1 Monoclonal Antibody (Catalog # MAB2770, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B).</p>	<p><b>Immunocytochemistry</b></p>  <p><b>IL-22 R<math>\alpha</math>1 in HT-29 Human Cell Line.</b> IL-22 R<math>\alpha</math>1 was detected in immersion fixed HT-29 human colon adenocarcinoma cell line using Mouse Anti-Human IL-22 R<math>\alpha</math>1 Monoclonal Antibody (Catalog # MAB2770) at 10 <math>\mu</math>g/mL for 3 hours at room temperature. Cells were stained using the Northern-Lights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for <a href="#">Fluorescent ICC Staining of Cells on Coverslips</a>.</p>
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## 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-22 receptor, also known as IL-22 R $\alpha$ 1 and CRF2-9, is an approximately 65 kDa transmembrane glycoprotein in 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 323 aa cytoplasmic domain. 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, -22R and -24 receptors (1). IL-22 R $\alpha$ 1/IL-10 R $\beta$  is an IL-22 responsive receptor (2, 3), and IL-22 R $\alpha$ 1/IL-20 R $\beta$  is an IL-20 or IL-24 responsive receptor (4, 5). IL-22 R $\alpha$ 1 contains cytoplasmic motifs for interactions with signal transduction molecules, but formation of ternary complexes with IL-10 R $\beta$  or IL-20 R $\beta$  and the respective ligands is required for signal transduction (2, 6). IL-22BP functions as a competitive antagonist by binding IL-22 and preventing its association with IL-22 R $\alpha$ 1 (7, 9). Even though it is a receptor for interleukins, IL-22 R $\alpha$ 1 is not expressed on hematopoietic cells (6, 10, 11). Instead, IL-22 R $\alpha$ 1 expression is restricted to epithelial and stromal cells (6, 10-13). 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 (3, 11, 13, 14). IL-22 R $\alpha$ 1 signaling also promotes downregulation of proteins involved in keratinocyte differentiation (3, 14). Within the ECD, human IL-22 R $\alpha$ 1 shares 78%, 76%, and 83% aa sequence identity with mouse, rat, and canine IL-22 R, respectively. It shares 22%-25% aa sequence identity with the ECDs of other class II receptors IL-10 R, IL-20 R, and IL-28 R.

**References:**

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