Mouse IL-22 Rα1 Antibody

Monoclonal Rat IgG_{2A} Clone # 496514

Catalog Number: MAB42941

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-22 Rα1 in direct ELISAs. In direct ELISAs, 25% cross-reactivity with recombinant human (rh) IL-22 Rα1 is observed and no cross-reactivity with rhIL-20 Rα, recombinant mouse (rm) IL-20 Rα, rhIL-22BP, or rmIL-22BP is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 496514
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse IL-22 Rα1 Thr18-Ala228 Accession # Q80XZ4
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

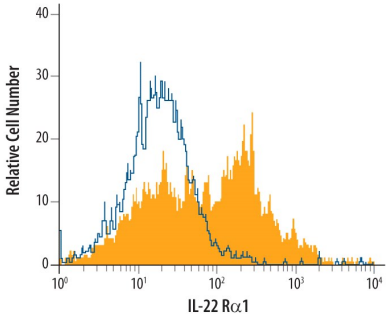
APPLICATIONS

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
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunocytochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

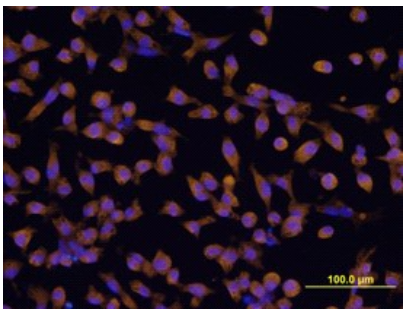
DATA

Flow Cytometry



Detection of IL-22 Rα1 in Hepa 1-6 Mouse Cell Line by Flow Cytometry. Hepa 1-6 mouse hepatoma cell line was stained with Rat Anti-Mouse IL-22 Rα1 Monoclonal Antibody (Catalog # MAB42941, filled histogram) or isotype control antibody (Catalog # MAB006, open histogram), followed by Allophycocyanin-conjugated Anti-Rat IgG $F(ab')_2$ Secondary Antibody (Catalog # F0113).

Immunocytochemistry



IL-22 Rα1 in Hepa 1-6 Mouse Cell Line. IL-22 Rα1 was detected in immersion fixed Hepa 1-6 mouse hepatoma cell line using Rat Anti-Mouse IL-22 Rα1 Monoclonal Antibody (Catalog # MAB42941) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (yellow; Catalog # NL013) and counter-stained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Catalog Number: MAB42941

BACKGROUND

The IL-22 receptor, also known as IL-22 Rα1 and CRF2-9, is an approximately 65 kDa type I transmembrane glycoprotein that belongs to the type II cytokine receptor family (CRF). IL-22 Rα1 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 Rα1 shares 78%, 78%, and 94% aa sequence identity with canine, human, and rat IL-22 Rα1, 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 Rα1 associates with either IL-10 Rβ or IL-20 Rβ to form receptor complexes with distinct ligand selectivities. IL-10 Rβ is a shared subunit of the IL-10, -22, -26, -28, and -29 receptors, while IL-20 Rβ is a shared subunit of the IL-19, -20, -22, and -24 receptors (2). IL-22 Rα1/IL-10 Rβ is an IL-22 responsive receptor (3, 4), and IL-22 Rα1/IL-20 Rβ is an IL-20 or IL-24 responsive receptor (5, 6). In both cases, IL-22 Rα1 functions as the high affinity ligand binding subunit, and subsequent association with IL-10 Rβ or IL-20 Rβ serves to stabilize the complex (3, 6-9). IL-22 Rα1 contains cytoplasmic motifs for interactions with signal transduction molecules, but association with IL-10 Rβ or IL-20 Rβ 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 Rα1 (8, 10). Even though it is a receptor for interleukins, IL-22 Rα1 is not expressed on hematopoietic cells (7, 11, 12). Instead, IL-22 Rα1 expression is restricted to epithelial and stromal cells (7, 11-14). IL-22 Rα1 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 Rα1 signaling also promotes downregulation of proteins involved in keratinocyte differentiation (4, 15).

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