Recombinant Mouse IL-22 Rα1

Catalog Number: 4294-MR

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse IL-22 R alpha 1 protein Thr18-Ala228, with a C-terminal 6-His tag Accession # NP_839988
N-terminal Sequence Analysis	Thr18
Predicted Molecular Mass	24.9 kDa

SPECIFICATIONS

SDS-PAGE	35-40 kDa, reducing conditions
Activity	Measured by its ability to inhibit IL-22-induced IL-10 secretion by COLO 205 human colorectal adenocarcinoma cells. The ED_{50} for this effect is 3-10 µg/mL in the presence of 1 ng/mL of rmIL-22.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in sterile PBS.
Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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).

References:

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