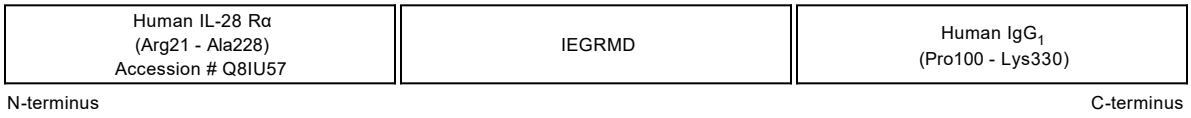
Recombinant Human IL-28 Rα/IFN-λ R1 Fc Chimera

Catalog Number: 5260-MR

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived



N-terminal Sequence Analysis	Arg21
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	50.2 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	65-75 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. In a 100 µL reaction mixture containing rhIL-28 Rα/Fc Chimera at 1 µg/mL and rhIL-28A (Catalog # 1587-IL) dilutions at 1-1000 ng/mL, the concentration of rhIL-28A that produces 50% of the optimal binding response is found to be approximately 40-200 ng/mL.
Endotoxin Level	<0.01 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. 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

IL-28 Rα (IL-28 receptor alpha subunit; also named interferon-λ 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 β subunit (IL-10 Rβ, 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-λ2), IL-28B (IFN-λ3) or IL-29 (IFN-λ1) (1 - 4). Human IL-28 Rα 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 Rα ECD shares 67%, 66%, 78% and 74% aa sequence identity with mouse, rat, canine and bovine IL-28 Rα, 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 Rα 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 upregulates MHC class I antigen expression (2 - 7). Anti-proliferative activity has also been shown for IL-28/IL-28 R (7).

References:

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3. Sheppard, P. *et al.* (2003) Nat. Immunol. **4**:63.
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6. Lasfar, A. *et al.* (2006) Cancer Res. **66**:4468.
7. Dumoutier, L. *et al.* (2004) J. Biol. Chem. **279**:32269.

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