Recombinant Guinea Pig IL-10

Catalog Number: 5258-GL/CF

DESCRIPTION

Source	*E. coli*-derived Ser19-Ser178 Accession # Q9Z1Y5
N-terminal Sequence Analysis	Ser19
Structure / Form	Noncovalently-linked homodimer
Predicted Molecular Mass	18.5 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	18.5 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using MC/9−2 mouse mast cells. Thompson-Snipes, L. *et al.* (1991) J. Exp. Med. **173**:507. The ED_{50} for this effect is typically 1.5-6 ng/mL.
Endotoxin Level	<1.0 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

Interleukin 10, also known as cytokine synthesis inhibitory factor (CSIF), is the charter member of the IL-10 family of α-helical cytokines that also includes IL-19, IL-20, IL-22, and IL-24 (1, 2). IL-10 is secreted by many activated hematopoietic cell types as well as hepatic stellate cells, keratinocytes, and placental cytotrophoblasts (2 - 5). Mature guinea pig IL-10 shares 75% - 84% amino acid sequence identity with bovine, canine, equine, feline, human, mouse, ovine, porcine, and rat IL-10. IL-10 is a 178 amino acid molecule that contains two intrachain disulfide bonds and is expressed as a noncovalently associated homodimer (6 - 8). The IL-10 dimer binds to two IL-10 Rα/IL-10 R1 chains, resulting in recruitment of two IL-10 Rβ/IL-10 R2 chains and activation of a signaling cascade involving JAK1, TYK2, and STAT3 (9). IL-10 Rβ does not bind IL-10 by itself but is required for signal transduction (1). IL-10 Rβ also associates with IL-20 Rα, IL-22 Rα, or IL-28 Rα to form the receptor complexes for IL-22, IL-26, IL-28, and IL-29 (10 - 12). IL-10 is a critical molecule in the control of viral infections and allergic and autoimmune inflammation (13 - 15). It promotes phagocytic uptake and Th2 responses, but suppresses antigen presentation and Th1 proinflammatory responses (2).

References:

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