

**Background**

IL-10, also known as human cytokine synthesis inhibitory factor (CSIF), is an anti-inflammatory cytokine that is produced by T cells, NK cells, mast cells and macrophages (1,2,3). It is capable of inhibiting synthesis of pro-inflammatory cytokines like IFN- $\gamma$ , IL-2, IL-3, TNF $\alpha$  and GM-CSF made by cells such as macrophages and regulatory T-cells. IL-10 also displays potent abilities to suppress the antigen presentation capacity of antigen presenting cells. IL-10 initiates signal transduction by binding to a cell surface receptor complex consisting of IL-10 RI and IL-10 RII (1). Binding of IL-10 leads to the activation of Jak1 and Tyk2, which phosphorylates Stat-3 (1,4). The anti-inflammatory activity of IL-10 is due to its ability to block signaling through other cytokine receptors, notably IFN $\gamma$  receptor, by upregulating expression of SOCS-1 (1,4). In addition, IL-10 promotes T cell tolerance by inhibiting tyrosine phosphorylation of CD28 (5,6). IL-10 is an important negative regulator of the immune response, which allows for maintenance of pregnancy (1). In contrast, increased IL-10 levels contribute to persistent *Leishmania major* infections (7).

**References**

1. Pestka, S. et al. (2004) *Immunol Rev* 202, 8-32.
2. Akuffo, H. et al. (1999) *Clin Exp Immunol* 117, 529-34.
3. Grimbaldston MA, et al (2007). *Nat. Immunol.* 8 (10): 1095–104.
4. O'Shea, J.J. and Murray, P.J. (2008) *Immunity* 28, 477-87.
5. Akdis, C.A. and Blaser, K. (2001) *Immunology* 103, 131-6.
6. Akdis, C.A. et al. (2000) *FASEB J* 14, 1666-8.
7. Von Stebut, E. (2000) *Eur J Dermatol* 17, 115-22.

**Related products**

1. GR238016 50 ml Reagent Reservoir, 100/case, 5 packs/case (pack of 20)
2. GR238004 Tissue Culture 96-well Microplate, individually packed, Case of 50
3. GR238019 1.5 ml Microcentrifuge tube with screw cap and free-standing, pack of 500
4. GR238007 125 ml leak-resistant HDPE bottle, colorless, pack of 24
5. GR238002 Microplate 12x8-Well Strip High Binding, Case of 50
6. GR238003 Microplate 12x8-Well Strip Medium Binding, Case of 50
7. GR238032 42592 Costar Stripwell Microplate 1 x 8 Flat Bottom, High Binding, Case of 100
8. GR238001 468667 Thermo Microplate 12x8-Well Strip Nunc Maxisorp F8, Case of 60
9. GR238031 96-well microplate sealer plastic, pack of 100



## Recombinant Equine IL-10

Catalog Number: GR104005

### Description

**Source:** *E. coli*- derived

Compositions: Ser19 –Asn178

Accession # [NP\\_001075959.1](#)

**N-terminal Sequence Analysis:** Ser

**Predicted Molecular Mass:** 19 kDa (monomer)

### Specifications

**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 ED50 for this effect is typically 1.5-4.5 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.

### Preparation and Storage

**Reconstitution:** Reconstitute at 50 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.

- 6 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.

### DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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