

Recombinant Mouse IL-10 (carrier-free)

Catalog # / Size: 575802 / 10 µg
575804 / 25 µg
575806 / 100 µg
575808 / 500 µg

Source: Mouse IL-10, amino acids Ser19-Ser178 (Accession # NM_010548) with a Cys149Tyr substitution, was expressed in *E. coli*.

Molecular Mass: The 161 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 18.9 kDa. The DTT-reduced protein migrates at approximately 18kDa and non-reduced protein migrates at approximately 15kDa by SDS-PAGE.

Purity: Purity is >98%, as determined by Coomassie stained SDS-PAGE.

Endotoxin Level: Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.

Activity: ED50 = 1- 2 ng/ml, corresponding to a specific activity of 1- 0.5 x 10⁶ units/mg, as determined by the dose dependent stimulation MC/9 cell proliferation.

Preparation: 10-100 µg sizes are bottled at 200 µg/mL. 500µg sizes and larger are bottled at the concentration indicated on the vial.

Formulation: 0.22 µm filtered protein solution is in 20mM Tris pH 7.5.

Storage: Unopened vial can be stored at 4°C for three months, at -20°C for six months, or at -70°C for one year. For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10µg/mL in buffer containing carrier protein such as 1% BSA or HSA or 10% FBS. For long term storage, aliquot into polypropylene vials and store in a manual defrost freezer. **Avoid repeated freeze/thaw cycles.**

Applications:

Applications: Bioassay

Application References: 1. Schaefer JS, *et al.* 2011. *J. Immunol.* 187:5834. PubMed
2. Nguyen HH, *et al.* 2012. *J. Immunol.* 189:3112. PubMed

Description: IL-10 was first described as a cytokine that is produced by T helper 2 (Th2) cell clones. It inhibits interferon (IFN)-g synthesis in Th1 cell, and therefore it was initially called cytokine synthesis inhibiting factor (CSIF). Macrophages are the main source of IL-10 and its secretion can be stimulated by endotoxin (via Toll-like receptor 4, NF-κB dependent), tumor necrosis factor TNF-α (via TNF receptor p55, NF-κB-dependent), catecholamines, and IL-1. IL-10 controls inflammatory processes by suppressing the expression of proinflammatory cytokines, chemokines, adhesion molecules, as well as antigen-presenting and costimulatory molecules in monocytes/macrophages, neutrophils, and T cells. IL-10 inhibits the production of proinflammatory mediators by monocytes and macrophages such as endotoxin- and IFN-g-induced release of IL-1a, IL-6, IL-8, G-CSF, GM-CSF, and TNF-α. In addition, it enhances the production of anti-inflammatory mediators such as IL-1RA and soluble TNFα receptors. IL-10 inhibits the capacity of monocytes and macrophages to present antigen to T cells. This is realized by down-regulation of constitutive and IFNγ-induced cell surface levels of MHC class II, of costimulatory molecules such as CD86 and of some adhesion molecules such as CD58.

Antigen References: 1. Fiorentino DF, *et al.* *J. Exp. Med.* 170:2081-2095 1989.
2. Ho AS, *et al.* *P. Natl. Acad. Sci. USA* 90:11267-11271 1993.
3. Hart PH, *et al.* *J. Immunol.* 157:3672-3680 1996.
4. Asadullah K, *et al.* *Pharmacol Rev* 55:241-269 2003.
5. Mosser DM and Zhang X *Immunol. Rev.* 226:205-218 2008.
6. Maynard CL and Weaver CT *Immunol. Rev.* 226:219-233 2008.



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