Datasheet

Cat. No. PM2009

Recombinant Mouse IL-10, Tag Free

Information

Accession #	P18893
Alternate Names	IL10; IL-10; IL10A; IL-10MGC126451; interleukin 10; interleukin-10; TGIF
Source	Human embryonic kidney cell, HEK293-derived mouse IL-10 protein
Protein sequence	Ser19-Ser178
M.Wt	18.8 kDa
Appearance	Solution protein
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. - 3 years from date of receipt, -20 to -7°C as supplied.
Concentration	0. 2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	The EC50 for this effect is 0.01-0.1 ng/mL. Measured in a cell proliferation assay using MC/9-2 mouse mast cells.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Interleukin 10, also known as cytokine synthesis inhibitory factor (CSIF), is the charter member of the IL-10 family of alpha -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 mouse IL-10 shares 85% amino acid sequence identity with rat and 70%-77% with bovine, canine, equine, feline, human, ovine, and porcine IL-10. Whereas human IL-10 is active on mouse cells, mouse IL-10 does not act on human cells [6, 7]. IL-10 is a 178 amino acid molecule that contains two intrachain disulfide bridges and is expressed as a 36 kDa noncovalently associated homodimer [8-10]. The IL-10 dimer binds to two IL-10 R alpha /IL-10 R1 chains, resulting in recruitment of two IL-10 R beta /IL-10 R2 chains and activation of a signaling cascade involving JAK1,

TYK2, and STAT3 [11]. IL-10 R beta does not bind IL-10 by itself but is required for signal transduction [1]. IL-10 R beta also associates with IL-20 R alpha, IL-22 R alpha, or IL-28 R alpha to form the receptor complexes for IL-22, IL-26, IL-28, and IL-29 [12-14]. IL-10 is a critical molecule in the control of viral infections and allergic and autoimmune inflammation [15-17]. It promotes phagocytic uptake and Th2 responses but suppresses antigen presentation and Th1 proinflammatory responses [2].

Reference

[1]. Pestka, S. et al. (2004) Annu. Rev. Immunol. 22:929.

[2]. O' Garra, A. and P. Vieira (2007) Nat. Rev. Immunol. 7:425.

[3]. Mathurin, P. et al. (2002) Am. J. Physiol. Gastrointest. Liver Physiol. 282:G981.

[4]. Grewe, M. et al. (1995) J. Invest. Dermatol. 104:3.

[5]. Szony, B.J. et al. (1999) Mol. Hum. Reprod. 5:1059.

[6]. Vieira, P. et al. (1991) Proc. Natl. Acad. Sci. 88:1172.

[7]. Hsu, D.-H. et al. (1990) Science 250:830.

[8]. Moore, K. et al. (1990) Science 248:1230.

[9]. Windsor, W.T. et al. (1993) Biochemistry 32:8807.

[10]. Syto, R. et al. (1998) Biochemistry 37:16943.

[11]. Kotenko, S.V. et al. (1997) EMBO J. 16:5894.

[12]. Kotenko, S.V. et al. (2000) J. Biol. Chem. 276:2725.

[13]. Hor, S. et al. (2004) J. Biol. Chem. 279:33343.

[14]. Sheppard, P. et al. (2003) Nat. Immunol. 4:63.

[15]. Fitzgerald, D.C. et al. (2007) Nat. Immunol. 8:1372.

[16]. Wu, K. et al. (2007) Cell. Mol. Immunol. 4:269.

[17]. Blackburn, S.D. and E.J. Wherry (2007) Trends Microbiol. 15:143.