Datasheet

Cat. No. PM2007

Recombinant Mouse IL-6, Tag Free

Information

Accession #	P08505
Alternate Names	BSF2; BSF-2; CDF; CTL differentiation factor ; HSF; IFNB2; IFN-beta-2; IL6; IL-6
Source	Human embryonic kidney cell, HEK293-derived mouse IL-6 protein
Protein sequence	Phe25-Thr211
M.Wt	21.8 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 -70°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 0.01-0.05 ng/mL. Measured in a cell proliferation assay using T1165.85.2.1 mouse plasmacytoma 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-6 (IL-6) plays important roles in the acute phase reaction, inflammation, hematopoiesis, bone metabolism, and cancer progression [1 - 5]. Mature mouse IL-6 is 187 amino acids (aa) in length and shares 39% and 85% aa sequence identity with human and rat IL-6, respectively [6 - 8]. IL-6 induces signaling through a cell surface heterodimeric receptor complex composed of a ligand binding subunit (IL-6 R alpha) and a signal transducing subunit (gp130). IL-6 binds to IL-6 R alpha, triggering IL-6 R alpha association with gp130 and gp130 dimerization [9]. Soluble forms of IL-6 R alpha are generated by both alternative splicing and proteolytic cleavage [5]. In a mechanism known as trans-signaling, complexes of soluble IL-6 and IL-6 R alpha elicit responses from gp130-expressing cells that lack cell surface IL-6 R alpha [5]. Trans-signaling enables a wider range of cell types to respond to IL-6, as the expression of

gp130 is ubiquitous, while that of IL-6 R alpha is predominantly restricted to hepatocytes, monocytes, and resting lymphocytes [2, 5]. IL-6, along with TNF-alpha and IL-1, drives the acute inflammatory response and the transition from acute inflammation to either acquired immunity or chronic inflammatory disease [1 - 5]. When dysregulated, it contributes to chronic inflammation in obesity, insulin resistance, inflammatory bowel disease, arthritis, sepsis, and atherosclerosis [1, 2, 5]. IL-6 can also function as an anti-inflammatory molecule, as in skeletal muscle where it is secreted in responseto exercise [2]. In addition, it enhances hematopoietic stem cell proliferation and the differentiation of Th17 cells, memory B cells, and plasma cells [1, 10].

Reference

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[3]. Erta, M. et al. (2012) Int. J. Biol. Sci. 8:1254.

[4]. Garbers, C. et al. (2012) Cytokine Growth Factor Rev. 23:85.

[5]. Mihara, M. et al. (2012) Clin. Sci. (Lond.) 122:143.

[6]. Chiu, C.P. et al. (1988) Proc. Natl. Acad. Sci. USA 85:7099.

[7]. Simpson, R.J. et al. (1988) Eur. J. Biochem. 176:187.

[8]. Van Snick, J. et al. (1988) Eur. J. Immunol. 18:193.

[9]. Murakami, M. et al. (1993) Science 260:1808.

[10]. Cerutti, A. et al. (1998) J. Immunol. 160:2145.