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Recombinant Mouse IL-6 Protein

Catalog Number:	670501, 670502
Size:	20 μg, 100 μg
Target Name:	IL-6, Interleukin-6, B cell stimulating factor-2 (BSF-2), Cytotoxic T cell differentiation factor (CDF), Hybrido
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	Bioassay
Format:	Lyophilized from sterile 50 mM HAc, pH3.0
Expression Host:	E.coli
Species:	Mouse
accession number:	P08505
Sources:	A DNA sequence encoding the mouse IL6 (P08505) (Phe25-Thr211) was expressed and purified.
Molecular Weight:	The recombinant mouse IL6 consists of 188 amino acids and predicts a molecular mass of 21.9 KDa. It migrates as an approximately 22 KDa band in SDS-PAGE under reducing conditions.
Affinity Tag:	None
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin level:	< 1.0 EU per μg protein
Protein Concentration:	Lyophilized
Storage and Handling:	Samples are stable for up to twelve months from date of receipt at -20℃ to -80℃. Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

BACKGROUND INFORMATION

Mouse interleukin-6 (IL-6) is a multifunctional cytokine that regulates immune responses, inflammation, hematopoiesis, and tissue repair. It is produced by a variety of cells, including macrophages, monocytes, T cells, endothelial cells, and fibroblasts, particularly following infection, tissue injury, or inflammatory stimulation. IL-6 promotes B-cell differentiation into antibody-producing plasma cells, influences T-cell differentiation, and stimulates hepatocytes to produce acute-phase proteins that contribute to the systemic inflammatory response.

Mouse IL-6 is a secreted glycoprotein belonging to the IL-6 cytokine family. Its mature protein adopts a characteristic four-alpha-helix bundle structure, which supports interactions with its receptor complex. IL-6 signals through the IL-6 receptor alpha chain (IL-6R/CD126) and the signal-transducing glycoprotein 130 (gp130/CD130). IL-6 first binds IL-6R, which exists in membrane-bound and soluble forms; the resulting complex recruits gp130 and activates intracellular pathways, including JAK/STAT3, MAPK, and PI3K–AKT. Unlike some cytokines, IL-6 does not have multiple unrelated conventional ligands; IL-6R and gp130 are its principal receptor components.

Dysregulated IL-6 signaling contributes to chronic inflammation, autoimmune disorders, and cancer-associated inflammation. In mouse disease models, elevated IL-6 activity has been implicated in experimental arthritis, inflammatory bowel disease, systemic autoimmunity, and tumor progression. However, IL-6 also supports antimicrobial defense and tissue regeneration, so its biological effects depend on the signaling context and disease environment.

Therapeutically, IL-6 is an important target for controlling pathological inflammation. Antibodies that neutralize IL-6 or block IL-6R can reduce excessive cytokine signaling, while selective inhibition of IL-6 trans-signaling may suppress inflammatory activity while preserving some beneficial functions of classic signaling. Mouse IL-6 and IL-6 pathway inhibitors are widely used in preclinical studies investigating inflammation, immune regulation, and therapeutic efficacy.

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