Cytokines

Human Recombinant IL-6R alpha

Interleukin 6 receptor alpha

Catalog #	78083	10 µg
	78083.1	50 µg

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Product Description

Interleukin 6 receptor (IL-6R) alpha is a type I transmembrane glycoprotein which forms a complex with type I transmembrane signal transducer protein gp130 (CD130) and mediates the biological activities of IL-6. IL-6 binds to the membrane-bound non-signaling IL-6R alpha (mIL-6R), and the complex binds to two molecules of gp130 and leads to 'classical' IL-6-signal transduction, which includes activation of JAK/STAT, ERK, and PI3K signal transduction pathways (Scheller et al.). In contrast, a soluble form of IL-6R alpha (sIL-6R), which comprises of the extracellular portion of the receptor, binds to the secreted IL-6 to form a complex that promotes bioavailability of IL-6. The complex of IL-6 and sIL-6R can bind to gp130 on cells which do not express the IL-6R and are unresponsive to IL-6. This process is known as trans-signaling (Hunter & Jones; Rose-John S). sIL-6R regulates both local and systemic IL-6-mediated events. Elevated levels of sIL-6R have been documented in several disease conditions such as rheumatoid arthritis, myeloma, and Crohn's disease (Jones et al.; Mihara et al.).

Product Information

Alternative Names:	B cell stimulatory factor-2, CD126, IL-6R, IL-6R1, IL-6RA, Interleukin-6 receptor, Interleukin-6 receptor alpha
Accession Number:	P08887
Amino Acid Sequence:	LAPRRCPAQE VARGVLTSLP GDSVTLTCPG VEPEDNATVH WVLRKPAAGS HPSRWAGMGR RLLLRSVQLH DSGNYSCYRA GRPAGTVHLL VDVPPEEPQL SCFRKSPLSN VVCEWGPRST PSLTTKAVLL VRKFQNSPAE DFQEPCQYSQ ESQKFSCQLA VPEGDSSFYI VSMCVASSVG SKFSKTQTFQ GCGILQPDPP ANITVTAVAR NPRWLSVTWQ DPHSWNSSFY RLRFELRYRA ERSKTFTTWM VKDLQHHCVI HDAWSGLRHV VQLRAQEEFG QGEWSEWSPE AMGTPWTESR SPPAENEVST PMQALTTNKD DDNILFRDSA NATSLPVQDS SSVPLP
Predicted Molecular Mass:	50 - 58 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

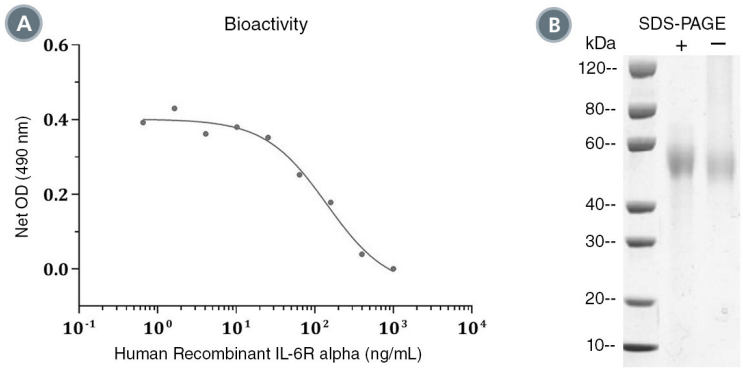
Specifications

Activity:	The specific activity is ≥ 5 x 10^3 units/mg (EC50 ≤ 200 ng/mL) as determined by the ability to inhibit growth of M1 cells in the presence of 10 ng/mL human IL-6.
Purity:	≥ 95 %
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Resuspend the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-6R alpha was tested by its ability to inhibit the proliferation of M1 cells. Inhibition of cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation inhibition is at 50% of maximum. The EC50 in the example above is less than 200 ng/mL.
(B) 5 µg of Human Recombinant IL-6R alpha was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-6R alpha has a predicted molecular mass of 50 - 58 kDa.

Related Products

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References

Hunter CA & Jones SA. (2015) IL-6 as a keystone cytokine in health and disease. Nat Immunol 16(5): 448–57.
Jones SA et al. (2001) The soluble interleukin 6 receptor: mechanisms of production and implications in disease. FASEB J 15(1): 43–58.
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Rose-John S. (2012) IL-6 trans-signaling via the soluble IL-6 receptor: importance for the pro-inflammatory activities of IL-6. Int J Biol Sci 8(9): 1237–47.
Scheller J et al. (2011) The pro- and anti-inflammatory properties of the cytokine interleukin-6. Biochim Biophys Acta 1813(5): 878–88.