

Human Interleukin-6 Receptor α (hIL-6R α)



Cell Signaling
TECHNOLOGY®

<input type="checkbox"/> SC 10 μ g (With Carrier)	<input type="checkbox"/> SF 10 μ g (Carrier Free)
<input type="checkbox"/> LC 50 μ g (With Carrier)	<input type="checkbox"/> LF 50 μ g (Carrier Free)

Multi-milligram quantities available

New 09/13

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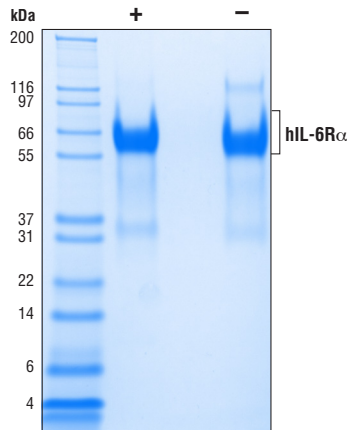
For Research Use Only. Not For Use In Diagnostic Procedures.

Source: Recombinant hIL-6R α Leu20 - Asp 358 (Accession #NP_000556) was expressed in human 293 cells at Cell Signaling Technology.

Molecular Characterization: Recombinant hIL-6R α has a calculated MW of 37,871. DTT-reduced and non-reduced protein migrate as 66 kDa polypeptides. Lower mobility and heterogeneity in SDS-PAGE are due to glycosylation. The expected amino terminus of recombinant hIL-6R α was verified by amino acid sequencing.

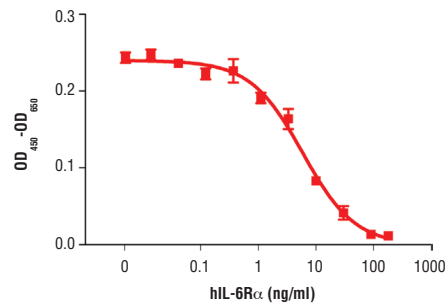
Endotoxin: Less than 0.01 ng endotoxin/1 μ g hIL-6R α .

Purity: >90% as determined by SDS-PAGE of 6 μ g reduced (+) and nonreduced (-) recombinant hIL-6R α . All lots are greater than 90% pure.



The purity of recombinant hIL-6R α was determined by SDS-PAGE of 6 μ g reduced (+) and nonreduced (-) recombinant hIL-6R α and staining overnight with Coomassie Blue.

Bioactivity: The activity of hIL-6R α was determined by assessing its ability to enhance IL-6 mediated inhibition of M1 cell proliferation. The ED₅₀ of each lot is between 2 and 15 ng/ml.



The ability of hIL-6R α to enhance IL-6 mediated inhibition of M1 cell proliferation was assessed. M1 Cells were treated with increasing concentrations of hIL-6R α in the presence of 20 ng/ml Human Interleukin-6 (hIL-6) #8904. After 72 hours, cells were incubated with a tetrazolium salt and the OD₄₅₀ - OD₆₅₀ was determined.

Formulation: With carrier: Lyophilized from a 0.22 μ m filtered solution of hIL-6R α in 20 mM Tris, pH 7.2 containing 20 μ g BSA per 1 μ g hIL-6Ra.

Carrier free: Lyophilized from a 0.22 μ m filtered solution of hIL-6R α in 20 mM Tris, pH 7.2.

Reconstitution:

With carrier: Add sterile 20 mM Tris, pH 7.2 or 20 mM Tris, pH 7.2 containing 1% bovine or human serum albumin or 5-10% FBS to a final hIL-6R α concentration of greater than 50 μ g/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile 20 mM Tris, pH 7.2 or 20 mM Tris, pH 7.2 containing protein to minimize absorption of hIL-6R α to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hIL-6R α should be greater than 50 μ g/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

Background: The IL-6 receptor is a heterodimeric complex that consists of a ligand-binding IL-6 receptor α (IL-6R α) subunit and a signaling component, gp130 (1). Binding of IL-6 to IL-6R α results in dimerization of receptor with gp130 and subsequent STAT3 activation (1). IL-6R α is cleaved from the cell surface by ADAM17 (1,2). In humans, soluble IL-6R α is also generated via alternatively spliced mRNA (1,3). Soluble IL-6R α binds to IL-6 and can stimulate signaling via membrane bound gp130 in a process known as "trans-signaling" (1). It is through trans-signaling that IL-6 stimulates cells that do not express membrane bound IL-6R α (1).

Background References:

- (1) Rose-John, S. (2012) *Int J Biol Sci* 8, 1237-47.
- (2) Müllberg, J. et al. (1993) *Eur J Immunol* 23, 473-80.
- (3) Lust, J.A. et al. (1992) *Cytokine* 4, 96-100.