

IL-6R alpha Protein, Human (Sf9)

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| Cat. No.: | HY-P7377 |
| Synonyms: | rHuIL-6 Receptor α ; gp80; CD126 |
| Species: | Human |
| Source: | Sf9 insect cells |
| Accession: | P08887-1 (L20-D358) |
| Gene ID: | 3570 |
| Molecular Weight: | Approximately 50 kDa |

PROPERTIES

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| AA Sequence | <pre> HHHHHHDDDD K L A P R R C P A Q E V A R G V L T S L P G D S V T L T C P G V E P E D N A T V H W V L R K P A A G S H P S R W A G M G R R L L L R S V Q L H D S G N Y S C Y R A G R P A G T V H L L V D V P P E E P Q L S C F R K S P L S N V V C E W G P R S T P S L T T K A V L L V R K F Q N S P A E D F Q E P C Q Y S Q E S Q K F S C Q L A V P E G D S S F Y I V S M C V A S S V G S K F S K T Q T F Q G C G I L Q P D P P A N I T V T A V A R N P R W L S V T W Q D P H S W N S S F Y R L R F E L R Y R A E R S K T F T T W M V K D L Q H H C V I H D A W S G L R H V V Q L R A Q E E F G Q G E W S E W S P E A M G T P W T E S R S P P A E N E V S T P M Q A L T T N K D D D N I L F R D S A N A T S L P V Q D </pre> |
| Biological Activity | The ED ₅₀ is <50 ng/mL as measured by M1 cells, corresponding to a specific activity of >2 × 10 ⁴ units/mg. |
| Appearance | Lyophilized powder. |
| Formulation | Lyophilized after extensive dialysis against PBS. |
| Endotoxin Level | <0.2 EU/μg, determined by LAL method. |
| Reconstitution | It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose). |
| Storage & Stability | Stored at -20°C for 2 years from date of receipt. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| Shipping | Room temperature in continental US; may vary elsewhere. |

DESCRIPTION

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| Background | IL-6 acts as both inflammatory factor and anti-inflammatory factor, fuels cancer progression through activating a series of |
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downstream signalling cascade including gp130 (dimers), JAK/STAT, MAPK, and Akt^{[1][2]}.

IL-6R alpha (IL-6R α) as a part of the receptor for interleukin 6, is a type I transmembrane glycoprotein, which forms a complex with the type I transmembrane signal transducer Glycoprotein 130 (CD130) and regulates the biological activity of IL-6 with a low affinity^[3].

The sequence of amino acids in IL-6R alpha proteins of human is very different from mouse (54.07%) and rat (54.68%).

IL-6R alpha has 2 isoform including mL6R (the longer one) or sIL6R (the shorter one):

The mL6R is membrane-bound interleukin-6 receptor, has the potential to drive naive CD4⁺ T cells to the Th17 lineage, through 'cluster signaling' by dendritic cells^[4].

The sIL-6R is soluble interleukin-6 receptor subunit, cleaved from IL-6R alpha (IL-6R α) in activated CD4⁺ T cells by proteolysis, and serves as IL-6 agonist. sIL-6R binds membrane-bound IL6R and subunit IL6ST to activate regenerative and anti-inflammatory signal via IL-6 trans signaling and promotes pro-inflammatory properties of IL-6. The hydrolysis of IL-6R alpha is also called ectodomain shedding^[1].

IL-6R alpha involves in regulating cell growth and differentiation, and plays an important role in regulation of immune response, acute-phase reactions and hematopoiesis^[5].

However, IL-6R alpha shows tissue expression specificity in liver and some cells of the immune system, thus results a limitation of IL6 signaling^[6].

It's worth noting that IL-6R alpha dysregulation is implicated in the pathogenesis of many diseases, such as multiple myeloma, autoimmune diseases, and prostate cancer^{[7][8]}.

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