9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

IL6ST Human

Interleukin-6 Signal Transducer Human Recombinant
CYK0466

Product Overview

Name	IL6ST Human
Description	
Interleukin-6 Signal Transducer Human Recombinant	
Accession (Primary)	Q17RA0
Synonyms	
Interleukin 6 signal transducer, oncostatin M receptor, IL6ST, CD130, CDw130, GP130, GP130-RAPS, IL6R-beta	
Introduction	
Interleukin-6 Signal Transducer or IL6ST is a receptor, part of the family of class 1 cytokine receptor. IL6ST binds to IL-6 through membrane-anchored or soluble IL-6R starts a connection between another complex of IL6ST and IL-6 , thus forming a homo-dimer and a signal transduction occurs.	
Source	
Sf9, Baculovirus cells.	
Physical Appearance	
Sterile Filtered colorless solution.	
Formulation	
The IL6ST solution (0.25mg/ml) contains 10% Glycerol and Phosphate-Buffered Saline (pH 7.4).	
Stability	
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.	
Purity	
Greater than 95% as determined by SDS-PAGE.	
Amino acid sequence	
ELLDPCGYIS PESPVVQLHS NFTAVCVLKE KCMDYFHVNA NYIVWKTNHF TIPKEQYTII NRTASSVTFT DIASLNIQLT CNILTFGQLE QNVYGITIIS GLPPEKPKNL SCIVNEGKKM RCEWDRGRET HLETNFTLKS EWATHKFADC KAKRDTPTSC TVDYSTVYFV NIEVWVEAEN ALGKVTSDHI NFDPVYKVKP NPPHNLSVIN SEELSSILKL TWTNPSIKSV IILKYNIQYR TKDASTWSQI PPEDTASTRS SFTVQDLKPF TEYVFRIRCM KEDGKGYWSD WSEEASGITY EDRPSKAPSF WYKIDPSHTQ GYRTVQLVWK TLPPFEANGK ILDYEVTLTR WKSHLQNYTV NATKLTVNLT NDRYVATLTV RNLVGKSDAA VLTIPACDFQ ATHPVMDLKA FPKDNMLWVE	

9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

WTTPRESVKK YILEWCVLSD KAPCITDWQQ EDGTVHRTYL RGNLAESKCY LITVTPVYAD GPGSPESIKA YLKQAPPSKG PTVRTKKVGK NEAVLEWDQL PVDVQNGFIR NYTIFYRTII GNETAVNVDS SHTEYTLSSL TSDTLYMVRM AAYTDEGGKD GPEFTFTTPK FAQGEIE LEH HHHHH

Background

Significance of Human Recombinant Interleukin-6 Signal Transducer: Insights and Implications Abstract: The Interleukin-6 (IL-6) signal transducer holds a pivotal role in the complex IL-6 signaling pathway, orchestrating crucial cellular responses. This paper delves into the significance of Human Recombinant IL-6 Signal Transducer in unraveling IL-6-mediated cellular communication and highlights its potential applications in research and therapeutic development. The review sheds light on the methodology of producing this transducer and its relevance in advancing our understanding of cytokine signaling. Introduction: IL-6, a pleiotropic cytokine, is known to exert its diverse effects through a complex signaling cascade, wherein the signal transducer plays a crucial role. The availability of Human Recombinant IL-6 Signal Transducer enables the investigation of its role in health and disease. This transducer is vital for transmitting IL-6 signals, influencing processes like immune response, inflammation, and cell differentiation. IL-6 Signal Transduction Pathway: The IL-6 signal transduction pathway involves binding of IL-6 to its receptor, leading to the recruitment of the signal transducer and subsequent activation of downstream signaling molecules such as JAK/STAT pathway. This orchestrated response modulates gene expression, thereby impacting cellular behavior. Methods of Production: Human Recombinant IL-6 Signal Transducer is produced by expressing the corresponding gene in a suitable expression system, often utilizing bacterial or mammalian cells. Proper post-translational modifications are necessary to ensure its biological activity and appropriate functioning within the signaling cascade. Applications in Research: Human Recombinant IL-6 Signal Transducer serves as a fundamental tool in elucidating IL-6-mediated signaling mechanisms. Its availability facilitates the exploration of how aberrant signaling contributes to diseases such as autoimmune disorders, inflammatory conditions, and certain cancers. The transducer's interaction with other signaling pathways is also of interest for comprehensive pathway analysis. Therapeutic Implications: Understanding the IL-6 signal transduction pathway has led to the development of targeted therapies for IL-6-related diseases. Modulation of this pathway presents potential opportunities for novel therapeutic interventions, thereby offering a new dimension in precision medicine. Challenges and Future Directions: While the availability of Human Recombinant IL-6 Signal Transducer has significantly advanced our knowledge, challenges remain in deciphering the intricate nuances of IL-6 signaling. Developing strategies to selectively intervene in this pathway without disturbing physiological homeostasis presents an ongoing challenge. Conclusion: The Human Recombinant IL-6 Signal Transducer serves as a cornerstone in unraveling the complexities of IL-6 signaling, shedding light on its roles in health and disease. Its applications span from fundamental research to therapeutic development, showcasing its potential to shape the future of precision medicine.

References

Bibliography: Heinrich PC, Behrmann I, Haan S, et al. Principles of interleukin (IL)-6-type cytokine signalling and its regulation. Biochem J. 2003;374(Pt 1):1-20. Taga T, Kishimoto T. Gp130 and the interleukin-6 family of cytokines. Annu Rev Immunol. 1997;15:797-819. Scheller J, Chalaris A, Schmidt-Arras D, Rose-John S. The pro- and anti-

inflammatory properties of the cytokine interleukin-6. Biochim Biophys Acta. 2011;1813(5):878-888. Murakami M, Hibi M, Nakagawa N, et al. IL-6-induced homodimerization of gp130 and associated activation of a tyrosine kinase. Science. 1993;260(5115):1808-1810. Tanaka M, Haruta J, Matsumura I, et al. Possible involvement of STAT5a/b and ERK phosphorylation in IL-6-induced SOCS3 expression in a human multiple myeloma cell line, RPMI 8226. Biochem Biophys Res Commun. 2001;286(4):1102-1108.

Precautions

IL6ST Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q17RA0)

Background

Significance of Human Recombinant Interleukin-6 Signal Transducer: Insights and Implications Abstract: The Interleukin-6 (IL-6) signal transducer holds a pivotal role in the complex IL-6 signaling pathway, orchestrating crucial cellular responses. This paper delves into the significance of Human Recombinant IL-6 Signal Transducer in unraveling IL-6-mediated cellular communication and highlights its potential applications in research and therapeutic development. The review sheds light on the methodology of producing this transducer and its relevance in advancing our understanding of cytokine signaling. Introduction: IL-6, a pleiotropic cytokine, is known to exert its diverse effects through a complex signaling cascade, wherein the signal transducer plays a crucial role. The availability of Human Recombinant IL-6 Signal Transducer enables the investigation of its role in health and disease. This transducer is vital for transmitting IL-6 signals, influencing processes like immune response, inflammation, and cell differentiation. IL-6 Signal Transduction Pathway: The IL-6 signal transduction pathway involves binding of IL-6 to its receptor, leading to the recruitment of the signal transducer and subsequent activation of downstream signaling molecules such as JAK/STAT pathway. This orchestrated response modulates gene expression, thereby impacting cellular behavior. Methods of Production: Human Recombinant IL-6 Signal Transducer is produced by expressing the corresponding gene in a suitable expression system, often utilizing bacterial or mammalian cells. Proper post-translational modifications are necessary to ensure its biological activity and appropriate functioning within the signaling cascade. Applications in Research: Human Recombinant IL-6 Signal Transducer serves as a fundamental tool in elucidating IL-6-mediated signaling mechanisms. Its availability facilitates the exploration of how aberrant signaling contributes to diseases such as autoimmune disorders, inflammatory conditions, and certain cancers. The transducer's interaction with other signaling pathways is also of interest for comprehensive pathway analysis. Therapeutic Implications: Understanding the IL-6 signal transduction pathway has led to the development of targeted therapies for

IL-6-related diseases. Modulation of this pathway presents potential opportunities for novel therapeutic interventions, thereby offering a new dimension in precision medicine. Challenges and Future Directions: While the availability of Human Recombinant IL-6 Signal Transducer has significantly advanced our knowledge, challenges remain in deciphering the intricate nuances of IL-6 signaling. Developing strategies to selectively intervene in this pathway without disturbing physiological homeostasis presents an ongoing challenge. Conclusion: The Human Recombinant IL-6 Signal Transducer serves as a cornerstone in unraveling the complexities of IL-6 signaling, shedding light on its roles in health and disease. Its applications span from fundamental research to therapeutic development, showcasing its potential to shape the future of precision medicine.

References for protein:

Bibliography: Heinrich PC, Behrmann I, Haan S, et al. Principles of interleukin (IL)-6-type cytokine signalling and its regulation. Biochem J. 2003;374(Pt 1):1-20. Taga T, Kishimoto T. Gp130 and the interleukin-6 family of cytokines. Annu Rev Immunol. 1997;15:797-819. Scheller J, Chalaris A, Schmidt-Arras D, Rose-John S. The pro- and anti-inflammatory properties of the cytokine interleukin-6. Biochim Biophys Acta. 2011;1813(5):878-888. Murakami M, Hibi M, Nakagawa N, et al. IL-6-induced homodimerization of gp130 and associated activation of a tyrosine kinase. Science. 1993;260(5115):1808-1810. Tanaka M, Haruta J, Matsumura I, et al. Possible involvement of STAT5a/b and ERK phosphorylation in IL-6-induced SOCS3 expression in a human multiple myeloma cell line, RPMI 8226. Biochem Biophys Res Commun. 2001;286(4):1102-1108.