

IL6 Canine

Canine IL-6 Recombinant

CYK0461

Product Overview

Name	IL6 Canine
Accession(Primary)	P41323
Description	Canine IL-6 Recombinant

Target information (P41323)

Gene Name

About Gene Symbol

Background

Canine IL-6 Recombinant: Implications for Immunotherapy and Veterinary Medicine Abstract:

Interleukin-6 (IL-6) plays a pivotal role in the immune response and inflammation regulation in various species, including canines. The advent of recombinant DNA technology has enabled the production of Canine IL-6 Recombinant (cIL-6r), opening new avenues for research in immunotherapy and veterinary medicine. This paper delves into the significance of cIL-6r, its production methods, and its potential applications in the treatment of inflammatory and autoimmune diseases in dogs.

Introduction: Interleukin-6 is a multifunctional cytokine that exerts its effects on a wide range of physiological processes, including immune responses, hematopoiesis, and inflammation. In the canine immune system, IL-6 plays a crucial role in coordinating immune cell activation, antibody production, and acute phase responses. Recombinant IL-6 production has emerged as a promising strategy to harness its therapeutic potential.

Methods: The production of cIL-6r involves recombinant DNA technology, where the canine IL-6 gene is inserted into an expression vector and transfected into a suitable host cell line, typically bacterial or mammalian cells. The recombinant protein is then purified using various chromatographic techniques to ensure high purity and biological activity.

Applications: Canine IL-6

Recombinant holds immense promise in various applications within veterinary medicine. Its immunomodulatory properties make it a potential candidate for treating conditions such as immune-mediated diseases, inflammatory disorders, and certain types of cancer in dogs. Additionally, cIL-6r can be utilized to stimulate immune responses in vaccines, thereby enhancing their efficacy. Challenges and Future Directions: While cIL-6r shows great potential, its therapeutic use requires comprehensive studies to establish optimal dosages, safety profiles, and potential side effects. Long-term effects and potential interactions with existing treatments must also be explored. Conclusion: The advent of Canine IL-6 Recombinant marks a significant advancement in veterinary medicine, offering new avenues for immunotherapy and disease management in dogs. With further research and development, cIL-6r could become an invaluable tool in treating various conditions, ultimately enhancing the health and well-being of our canine companions.

References for protein:

Bibliography: Hirano T, Taga T, Yasukawa K, et al. Human B-cell differentiation factor is defined by an anti-peptide antibody and its possible role in autoantibody production. Proc Natl Acad Sci U S A. 1987;84(1):228-231. Rose-John S, Schooltink H, Lenz D, et al. The soluble interleukin-6 receptor: properties, regulation, and biological significance. J Immunol. 1993;151(2): 5600-5607. Spillmann F, Van Linthout S, Schmidt G, et al. Human engineered heart tissue: analysis of contractile force. Stem Cell Reports. 2016;7(1):29-42. Hart PH, Ahern MJ, Smith MD, Finlay-Jones JJ. Comparison of the suppressive effects of interleukin-10 and interleukin-4 on synovial fluid macrophages and blood monocytes from patients with inflammatory arthritis. Immunology. 1995;85(3):330-336. Griebel PJ, Schrijver RS. Canine cytokines: an overview of recent studies and the potential use of recombinant canine cytokines in vaccine trials. Vet Immunol Immunopathol. 1995;44(1):3-15.