

BMP 7 Human, HEK

Bone Morphogenetic protein-7 Human Recombinant, HEK

CYK0085

Product Overview

Name	BMP 7 Human, HEK
Accession(Primary)	P18075
Description	Bone Morphogenetic protein-7 Human Recombinant, HEK

Target information (P18075)

Gene Name

About Gene Symbol

Background

BMP-7 Bone Morphogenetic Protein-7 Human Recombinant: A Key Regulator of Osteogenesis and Beyond Abstract: BMP-7 (Bone Morphogenetic Protein-7), also known as Osteogenic Protein 1 or BMP-7, is a potent growth factor that plays a crucial role in various biological processes, particularly in osteogenesis and tissue regeneration. This research paper aims to comprehensively explore the molecular characteristics, signaling pathways, and diverse physiological functions of BMP-7. Additionally, it investigates the therapeutic implications of BMP-7 in different disorders. Synonyms such as Osteogenic Protein 1 and BMP-7 associated with the protein are discussed throughout the paper to highlight their relevance in scientific literature. Introduction: BMP-7, also known as Osteogenic Protein 1 or BMP-7, is a growth factor with multifaceted roles in osteogenesis, tissue regeneration, and disease. This section introduces BMP-7 and its synonyms, highlighting their significance and relevance in scientific research. Molecular Characteristics of BMP-7: This section explores the molecular characteristics of BMP-7, including its primary amino acid sequence, protein structure, post-translational modifications, and binding partners. The importance of these factors in determining BMP-7's

biological activity and receptor specificity is discussed. Signaling Pathways Activated by BMP-7 : BMP-7 activates specific signaling pathways upon binding to its receptors, leading to diverse cellular responses. This section focuses on the canonical BMP signaling pathway, highlighting the activation of Smad-dependent and Smad-independent pathways. The downstream effectors and transcriptional regulators involved in mediating BMP-7's cellular responses are also discussed. Physiological Functions of BMP-7 : BMP-7 plays critical roles in various physiological processes, particularly in osteogenesis and tissue regeneration. This section provides an in-depth analysis of BMP-7's contributions to these processes, emphasizing its role in promoting bone formation, cartilage development, renal function, and wound healing. Therapeutic Implications of BMP-7 : The unique properties of BMP-7 make it a promising therapeutic candidate for various disorders. This section discusses the potential applications of BMP-7 in bone regeneration, cartilage repair, kidney disease, and tissue engineering. The challenges and future directions in utilizing BMP-7 as a therapeutic agent are also explored. BMP-7 in Disease Progression: BMP-7 is implicated in the progression of certain diseases, including fibrosis, cancer, and cardiovascular disorders. This section examines the role of BMP-7 in tissue fibrosis, tumor progression, angiogenesis, and cardiac remodeling. The therapeutic implications and targeting of BMP-7 in disease management are also discussed. Conclusion: BMP-7, also known as Osteogenic Protein 1 or BMP-7, is a critical growth factor involved in osteogenesis, tissue regeneration, and disease progression. Understanding the molecular characteristics, signaling pathways, and physiological functions of BMP-7 contributes to the exploration of its therapeutic potential in various disorders.