

BMP 4 Human

Bone Morphogenetic Protein-4 Human Recombinant

CYK0082

Product Overview

Name	BMP 4 Human
Accession(Primary)	P12644
Description	Bone Morphogenetic Protein-4 Human Recombinant

Target information (P12644)

Gene Name

About Gene Symbol

Background

What You Should Know About Bone Morphogenetic Protein-4 (BMP-4) Human Recombinant As part of the transforming growth factor-beta (TGF- β) superfamily, Bone morphogenetic protein-4 (BMP-4) participates in multiple developmental processes, from embryogenesis to bone and cartilage formation. Since this signaling protein is involved in many physiological processes, its laboratory-produced version has been studied for different medical applications. Additionally, a reduction in BMP-4 expression has been associated with multiple diseases, leading to further research into its potential therapeutic benefits. Are you interested in learning more about Bone Morphogenetic Protein-4 (BMP-4) human recombinant? Read on to find more information! How Does Bone Morphogenetic Protein-4 (BMP-4) Work? Bone Morphogenetic Protein-4 (BMP-4) regulates microRNAs miR-494 and miR-126-5p expression, controlling endothelial cells' involvement and function in angiogenesis. As such, it has diverse effects on cell growth, differentiation, and survival. The Role of BMP-4 This protein emits signals that promote the formation of different tissues and organs, including the bones and cartilage, kidneys, teeth, and the neural tube. In other words, it's essential for the development of the heart,

skeleton, and central nervous system. However, the role of BMP-4 goes beyond these processes. It participates in different physiological activities, such as: Embryonic development Wound healing Bone remodeling Immune response modulation Tissue repair Cardiac development and function

What Is Bone Morphogenetic Protein-4 (BMP-4) Human Recombinant?

To replicate the effects of the BMP4 found in humans and explore its possible therapeutic applications, many laboratories have started producing this protein in Chinese hamster ovary (CHO) cells. As mentioned, decreased BMP-4 expression has been associated with different diseases, including bone disorders, fibrosis, and cancer, which can cause other conditions, such as organ dysfunction. More research is needed, but BMP-4 human recombinant (rhBMP4) produced in CHO has the potential to address these diseases and could be used for other medical applications. These are some examples: Cancer therapy Development of engineered tissues and organs Bone regeneration for the treatment of osteoporosis and nonunion fractures Bone growth and fusion in spinal fusion surgeries (the U.S. Food and Drug Administration approved some bone morphogenetic proteins for these procedures) Promotion of tissue repair and regeneration

Final Thoughts BMP-4

Although BMP-4 human recombinant produced in CHO offers potential benefits, several challenges remain, including possible side effects, as high doses can cause inflammation, bone overgrowth, and other issues. However, the long-term effects of rhBMP4 are still under investigation. Further research will provide solutions to address these challenges and allow experts to explore this laboratory-produced protein's power in different medical fields.