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Activin B Human Active

Activin-B Human Recombinant, Active
GRF0004

Product Overview

Name	Activin B Human Active
Description	
Activin-B Human Recombinant, Active	
Accession (Primary)	P09529
Immunogen	
Recombinant human Activin-A produced in plants.	
Synonyms	
Inhba, Inhibin beta A, FSH releasing protein.	
Introduction	
Activins are homodimers or heterodimers of the different ? subunit isoforms, part of the TGF? family. Mature Activin A has two 116 amino acids residues ?A subunits (?A-?A). Activin displays an extensive variety of biological activities, including mesoderm induction, neural cell differentiation, bone remodelling, haematopoiesis, and reproductive physiology. Activins takes part in the production and regulation of hormones such as FSH, LH, GnRH and ACTH. Cells that are identified to express Activin A include fibroblasts, endothelial cells, hepatocytes, vascular smooth muscle cells, macrophages, keratinocytes, osteoclasts, bone marrow monocytes, prostatic epithelium, neurons, chondrocytes, osteoblasts, Leydig cells, Sertoli cells, and ovarian granulosa cells.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
Lyophilized from a sterile filtered (0.2 µm) solution containing phosphate buffered saline.	
Stability	
Store at -20ºC. For long term storage freezes in working aliquots at -20ºC. Repeated freezing and thawing is not recommended.	
Solubility	
Add 0.1 ml of distilled water and let the lyophilized pellet dissolve completely.	
Applications	
Activin-A antibody has been tested by ELISA and Western blot analysis to assure specificity and reactivity. Since application varies, however, each investigation should be titrated by the reagent to obtain optimal results. In order to	

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detect Human Activin A by indirect ELISA a dilution of at least 1:1,000 of the Activin A antibody is required. Activin A antibody, in conjunction with compatible secondary reagents (anti rabbit AP conjugated), allows the detection of 0.2-1 ng /well of Human Activin A. In order to detect human Activin A by WB analysis this IgG can be used in a dilution of 1:1,000.

Type

Polyclonal Rabbit Antibody.

Purification Method

Purified IgG prepared by affinity chromatography on protein G.

Precautions

Activin B Human Active is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P09529)

Background

An Investigation into the Functional Roles and Therapeutic Potential of Activin-B Human Recombinant, Active 1. Abstract Activin-B Human Recombinant, Active, also referred to as beta-2, Activin beta-B chain, or MGC157939, is a crucial component of the Transforming Growth Factor-beta (TGF-beta) superfamily. The multifaceted nature of this protein implicates it in numerous physiological processes. This paper delves into the bioactivity of Activin-B, exploring its role in cellular proliferation, differentiation, apoptosis, and its potential for therapeutic applications, especially in the realms of regenerative medicine, reproductive health, and cancer therapy. 2. Introduction The TGF-beta superfamily, of which Activin-B is a member, is renowned for its far-reaching implications in cell and developmental biology. This superfamily boasts members that control cell growth, differentiation, and apoptosis, thus playing vital roles in organogenesis, bone growth, and reproductive functions. This research paper aims to shed light on the characteristics and potential therapeutic applications of Activin-B. 3. Structure and Synthesis of Activin-B Activin-B is a dimeric protein, composed of two identical beta-B chains. This homodimer undergoes multiple stages of synthesis, starting as a precursor protein, which then experiences proteolytic processing to eventually form the mature peptide. It is this coordinated activity of various enzymes and molecular chaperones that ensure the accurate biosynthesis of Activin-B. 4. Biological Functions of Activin-B Activin-B's roles extend from embryogenesis and organogenesis to the modulation of reproductive functions. Its influence over cellular proliferation, differentiation, and apoptosis has significant repercussions in physiological and pathological scenarios. Its regulatory functions also encompass immunomodulation and wound healing, underpinning its extensive biological reach. 5. Activin-B in Regenerative

Medicine Regenerative medicine's primary focus is the repair and regeneration of tissues, and it is here that the potential of Activin-B shines. The protein's capacity to regulate cellular processes positions it as a possible agent in tissue repair, making it an intriguing research topic for therapeutic applications in regenerative medicine. 6. Activin-B and Reproductive Health Activin-B’s role in reproductive health is undeniable, having been implicated in follicular development, ovulation, and pregnancy maintenance. Its potent influence on reproductive functions indicates the possibility of its use in the treatment of reproductive disorders, providing a potential pathway for further therapeutic development. 7. Activin-B in Cancer Recent research has connected the deregulation of Activin-B to various types of cancer. Deciphering the mechanisms through which Activin-B affects cancer cell proliferation and survival could open up new avenues for targeted cancer therapy. This critical linkage emphasizes the need for comprehensive studies on Activin-B's role in oncogenesis. 8. Conclusion and Future Perspectives Our understanding of Activin-B's biological functions has grown immensely, but many mysteries remain. The continued exploration of the molecular mechanisms through which Activin-B operates will undoubtedly yield more insights into its potential therapeutic uses, guiding the development of new treatments for a myriad of diseases.