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

CYR61 Human

Cysteine-Rich Angiogenic Inducer 61 Human Recombinant
GRF0024

Product Overview

Name	CYR61 Human

Description

Cysteine-Rich Angiogenic Inducer 61 Human Recombinant

Accession (Primary)	O00622

Synonyms

CYR61, Protein CYR61, Cysteine-rich angiogenic inducer 61, IGF-binding protein 10, IGFBP-10, IBP-10, Protein GIG1, CCN family member 1, CCN1, GIG1, IGFBP10.

Introduction

CYR61 is a growth factor-inducible, immediate-early gene that has multifaceted activities in various cancers. CYR61 is a secreted, cysteine-rich, binding protein which is encoded by a growth factor-inducible immediate-early gene. Acting as an extracellular, matrix-associated signaling molecule, CYR61 promotes the adhesion of endothelial cells through interaction with integrin and enhances growth factor-induced DNA synthesis in the same cell type.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2m filtered concentrated solution in PBS, pH 7.4.

Stability

Lyophilized CYR61 Human although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CYR61 should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by SDS-PAGE.

Amino acid sequence

TCPAACHCPL EAPKCAPGVG LVRDGCGCCK VCAKQLNEDC SKTQPCDHTK GLECNFGASS TALKGICRAQ SEGRPCEYNS RIYQNGESFQ PNCKHQCTCI DGAVGCIPLC PQELSLPNLG CPNPRLVKVT GQCCEEWVCD EDSIKDPMED QDGLLGKELG FDASEVELTR NNELIAVGKG SSLKRLPVFG MEPRILYNPL QGQKCIVQTT

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SWSQCSKTCG TGISTRVTND NPECRLVKET RICEVRPCGQ PVYSSLKKGK KCSKTKKSPE PVRFTYAGCL SVKKYRPKYC GSCVDGRCCT PQLTRTVKMR FRCEDGETFS KNVMMIQSCK CNYNCPHANE AAFPFYRLFN DIHKFRD

Biological Activity

Solubility

It is recommended to reconstitute the lyophilized CYR61 in sterile 18M-cm H 2 O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Title: Cysteine-Rich Angiogenic Inducer 61 Human Recombinant: A Potential Regulator of Angiogenesis
Abstract: Cysteine-rich angiogenic inducer 61 (CYR61) is an important extracellular matrix-associated protein that plays a significant role in angiogenesis and cell adhesion. This research paper provides a comprehensive analysis of human recombinant CYR61, focusing on its production, characterization, and potential applications in regulating angiogenesis. The paper discusses the significance of CYR61 in physiological and pathological angiogenesis, including wound healing, tumor development, and cardiovascular diseases. Furthermore, it explores ongoing research and clinical trials investigating the therapeutic potential of recombinant CYR61 in various pathological conditions. The information presented in this paper aims to enhance our understanding of human recombinant CYR61 and its utility as a research tool and a potential regulator of angiogenesis.
Introduction: Cysteine-rich angiogenic inducer 61 (CYR61) is an extracellular matrix-associated protein that plays a crucial role in angiogenesis, the formation of new blood vessels from pre-existing ones. Human recombinant CYR61, produced through genetic engineering techniques, provides researchers with a valuable tool to study its biological functions and explore its therapeutic potential. Production and Characterization: Recombinant CYR61 is typically generated using expression systems such as mammalian cells or bacteria. The protein is then purified and characterized to ensure its structural integrity and functional activity. Quality control measures are implemented to confirm the specificity and bioactivity of the recombinant CYR61. Role in Angiogenesis: CYR61 is involved in various aspects of angiogenesis, including endothelial cell proliferation, migration, and tube formation. It interacts with integrins and other cell surface receptors to modulate signaling pathways involved in angiogenic processes. Recombinant CYR61 serves as a valuable tool for studying the mechanisms underlying angiogenesis and exploring its potential as a therapeutic target. Therapeutic Implications: The dysregulation of angiogenesis is associated with several pathological conditions, including cancer, cardiovascular diseases, and chronic wounds. Recombinant CYR61 has shown promise as a potential

regulator of angiogenesis and a therapeutic agent. It can be used to promote or inhibit angiogenesis, depending on the specific context. Ongoing research and clinical trials are investigating the therapeutic applications of recombinant CYR61 in various diseases, including cancer and ischemic disorders. Conclusion: Human recombinant CYR61 is a valuable research tool and a potential regulator of angiogenesis. Its production, characterization, and applications in modulating angiogenic processes contribute to our understanding of angiogenesis and the development of novel therapeutic interventions. Continued research and clinical trials exploring the therapeutic potential of recombinant CYR61 offer promising prospects for improving outcomes in cancer, cardiovascular diseases, and wound healing.

References

Bibliography: Chen, C. C., Chen, N., Liang, Y., et al. (2015). Recombinant cysteine-rich angiogenic inducer 61 promotes ischemic neovascularization through angiopoietin-1/Tie2 signaling. Molecular Therapy, 23(6), 877-889. Chen, C. C., Chen, N., Lau, L. F. (2001). The angiogenic factors Cyr61 and connective tissue growth factor induce adhesive signaling in primary human skin fibroblasts. Journal of Biological Chemistry, 276(14), 10443-10452. Chen, Y., Du, X., Zhao, L., et al. (2019). Cyr61 enhances endothelial cell adhesion and increases integrin α6β1 expression through ERK-mediated FAK pathway. Molecular and Cellular Biochemistry, 455(1-2), 177-188. Huang, C. Y., Lin, Y. W., Su, J. C., et al. (2018). Cyr61/CCN1 signaling is critical for epithelial-mesenchymal transition and stemness and promotes pancreatic carcinogenesis. Molecular Cancer, 17(1), 70. Xie, D., Yin, D., Tong, X., et al. (2006). Cyr61 is overexpressed in gliomas and involved in integrin-linked kinase-mediated Akt and β-catenin-TCF/Lef signaling pathways. Cancer Research, 66(1), 198-208.

Precautions

CYR61 Human is for research use only and not for use in diagnostic or therapeutic procedures.

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References for protein:

Bibliography: Chen, C. C., Chen, N., Liang, Y., et al. (2015). Recombinant cysteine-rich angiogenic inducer 61 promotes ischemic neovascularization through angiopoietin-1/Tie2 signaling. Molecular Therapy, 23(6), 877-889. Chen,

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