

KGF Human

Keratinocyte Growth Factor Human Recombinant

GRF0196

Product Overview

Name	KGF Human
Accession(Primary)	P21781
Description	Keratinocyte Growth Factor Human Recombinant

Target information (P21781)

Gene Name

About Gene Symbol

Background

FGF stands for fibroblast growth factor that have proteins encoded inside them. The FGF family possess broad mitogenetic activities and are involved in a lot of processes in the body. Some of the biological processes that they are included in are embryonic development, cell growth, tumor growth and tissue repair. FGF-7 is often also commonly referred to as keratinocyte growth factor or KGF and studies have focused on the link between the protein and certain tumor growth. Structure Studies have found that the crystal structure of FGF7 is comparatively similar to that of FGF10. For instance, FGF7 does interact with D2, linker as well as D3 of the receptor. Similar to other FGFs much of interaction to do with D2 is confined to conserved residues as well as the residue Arg 251 in the linker domain and the hydrophobic surface of D2. That said there are notable differences and some models predict that FGF7 actually interacts with three loops in D3. Mechanism A member of the FGF family, this factor acts completely exclusively through a subset of FGF receptor isoforms. These are mainly expressed by epithelial cells. Indeed, studies suggest that the factor specifically acts on epithelial cells. This in turn causes increased proliferation differentiation and migrations of the aforementioned cells. Interactions FGF7 and FGF10 can interact with one of the FGF receptors that is expressed by the epithelial cells. As such, it could be

the case that this interaction could cause a protective factor for these epithelial tissues. The protein has also been shown to interact with Perlecan. Also referred to as basement membrane specific heparan sulfate proteoglycan core protein, this is encoded by the HSPG2 gene. A large multi domain this cross-links and binds to various extracellular matrix components as well as self surface molecules. Since FGF7 binds specifically with the perlecan protein, research suggests that it should be considered a novel biological ligand for FGF-7. This could mean that interaction has an influence on both tissue remodeling and cancer growth. Function Studies have shown that FGF-7 expression is completely unregulated during minor or even chronic injury. This has lead researchers to believe that the protein is used to heal or repair epithelial cells. Furthermore, FGF-1 also triggers the formation of apical ectodermal ridge throughout the development of limbs in the body. Recently, it has seemed to be the case that FGF-7 has been linked to skin injury repair, and has also been found to play some sort of role in breast cancer. As well as this, it is a vital regulator of HPC's. It is vital because it can induce de novo activation of these HPCs. Further research has shown that FGF6 is a niche signal that is required for the stimulation of adult liver progenitor cells and this can support liver regeneration. This research has lead to the suggestion that FGF7 could be a possibility therapeutic target for those suffering from liver diseases. Studies like this are just one of the reasons why researchers continue to explore fgf-7, it's functions and interactions.

References for protein:

1. Title :Human Cord Blood-Derived Endothelial Progenitor Cells and Their Conditioned Media Exhibit Therapeutic Equivalence for Diabetic Wound Healing . Publication : Cell Transplantation ISSN: 0963-6897 DOI: 10.3727/096368910X516637 Volume 19, Issue 12, pages 1635-1644 Copyright © 2010 Cognizant Comm. Corp Link : KGF prospec publication 2. Title :Transforming Growth Factor-Alpha: A Major Human Serum Factor that Promotes Human Keratinocyte Migration. Publication : Journal of Investigative Dermatology (2006) 126, 2096–2105. doi:10.1038/sj.jid.5700350; published online 11 May 2006. Link : Keratinocyte Growth Factor prospec publication