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EGFL6 Human

EGF Like Domain Multiple 6 Human Recombinant
GRF0039

Product Overview

Name	EGFL6 Human
Description	
EGF Like Domain Multiple 6 Human Recombinant	
Accession (Primary)	Q8IUX8
Synonyms	
EGF Like Domain Multiple 6, MAM and EGF Domains-Containing Gene Protein, MAM and EGF Domain Containing, EGF-Like Protein 6, MAEG, EGF Repeat-Containing Protein 6, W80, EGFL6.	
Introduction	
Epidermal Growth Factorlike Domain Multiple 6 (EGFL6) belongs to the EGF repeat superfamily of proteins, whose members are involved in the regulation of cell cycle, proliferation, and developmental processes. EGFL6 gene product contains a signal peptide, suggesting that EGFL6 is secreted; an EGF repeat region consisting of four complete EGF-like repeats and 1 partial EGF-like repeat, 3 of which have a calcium-binding consensus sequence; an arg-gly-asp integrin association motif; and a MAM domain, which is assumed to have an adhesive function. Within shared regions, human EGFL6 shares 75% and 78% amino acid sequence identity with the mouse and rat orthologs, respectively. EGFL6 is expressed in various fetal tissues during early development such as the lung, heart, liver, spleen, cochlea and the placenta, as well as meningioma tumors.	
Source	
HEK (Human embryonic kidney cells).	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
The EGFL6 protein was lyophilized from a 0.2 μm filtered solution in 20mM MES and 500mM NaCl, pH 6.0 with 5% Trehalose.	
Stability	
Lyophilized EGFL6 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution EGFL6 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.	
Purity	

Greater than 95.0% as determined by SDS-PAGE.

Biological Activity

EGFL6 activity is determined by its ability of the immobilized protein to support the adhesion of NIH-3T3 mouse embryonic fibroblast cells. The expected ED50 for this effect is 1-5 µg/ml.

Solubility

It is recommended to reconstitute the lyophilized EGFL6 in sterile PBS at 500 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Illuminating Epidermal Growth Factor Rat Recombinant: Deciphering Cellular Signaling and Therapeutic Potential Abstract: This research paper delves into the enigmatic realm of Epidermal Growth Factor Rat Recombinant (EGF-RR), unraveling its intricate molecular attributes, signaling cascades, and therapeutic prospects. By employing cutting-edge methodologies encompassing protein expression, receptor binding assays, and bioinformatics analyses, this study sheds light on the multifaceted interplay between EGF-RR and cellular responses, offering novel avenues for therapeutic interventions. Introduction: Epidermal Growth Factor (EGF) is pivotal in cellular regulation. This paper navigates the complexities of Epidermal Growth Factor Rat Recombinant (EGF-RR), focusing on its unique molecular properties and potential therapeutic applications. Protein Expression and Purification: The study embarks on precise gene optimization to enhance EGF-RR expression. Purification techniques like affinity chromatography yield purified EGF-RR, primed for subsequent analyses. Receptor Binding Assays and Ligand Interaction: Employing advanced receptor binding assays, the paper deciphers EGF-RR's engagement with its cognate receptor. Quantitative assessments uncover binding kinetics, shedding light on the intricacies of EGF-RR's molecular interaction. Cellular Signaling Pathways and Responses: In vitro cellular assays unveil the signaling cascades ignited by EGF-RR. Through quantitative phosphoproteomic profiling, the study unravels phosphorylation events triggered by EGF-RR, delineating its role in cellular proliferation, migration, and differentiation. Bioinformatics Insights and Structural Modeling: Bioinformatics tools facilitate molecular dynamics simulations, offering insights into EGF-RR's receptor interactions and downstream signaling pathways. Structural modeling captures EGF-RR's conformational changes during signaling cascades. Therapeutic Implications and Future Prospects: EGF-RR's intricate signaling dynamics open avenues for therapeutic exploration. Harnessing its potential in wound healing, tissue regeneration, and cancer modulation emerges as a promising avenue for precision medicine. Challenges and Future Directions: Challenges, including context-specific responses, beckon further investigation. Future research should delve into cross-talk between signaling pathways and EGF-RR's contributions to diverse disease contexts. Conclusion: A fusion of advanced methodologies and visionary insights unveils Epidermal Growth Factor Rat Recombinant as an intriguing subject. Its molecular intricacies and complex cellular interplay ignite prospects for therapeutic breakthroughs, ushering in a new era of precision medicine.

References

Bibliography: Carpenter G, Cohen S. Epidermal growth factor. Annu Rev Biochem. 1979;48:193-216. Lemmon MA, Schlessinger J. Cell signaling by receptor tyrosine kinases. Cell. 2010;141(7):1117-1134. Hynes NE, Lane HA. ERBB

receptors and cancer: the complexity of targeted inhibitors. Nat Rev Cancer. 2005;5(5):341-354. Schneider MR. Epidermal Growth Factor: Unraveling the Implications for Cancer Progression. Mol Cancer Res. 2017;15(6):751-756. Zhang J, Hu X, Luo L, et al. EGFR activation triggers electrical activity and calcium influx in Schwann cells through CaV1 channels. Exp Cell Res. 2019;378(1):24-30.

Precautions

EGFL6 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q8IUX8)

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References for protein:

Bibliography: Carpenter G, Cohen S. Epidermal growth factor. Annu Rev Biochem. 1979;48:193-216. Lemmon MA, Schlessinger J. Cell signaling by receptor tyrosine kinases. Cell. 2010;141(7):1117-1134. Hynes NE, Lane HA. ERBB receptors and cancer: the complexity of targeted inhibitors. Nat Rev Cancer. 2005;5(5):341-354. Schneider MR. Epidermal Growth Factor: Unraveling the Implications for Cancer Progression. Mol Cancer Res. 2017;15(6):751-756. Zhang J, Hu X, Luo L, et al. EGFR activation triggers electrical activity and calcium influx in Schwann cells through CaV1 channels. Exp Cell Res. 2019;378(1):24-30.