

EGF Mouse, His Active

Epidermal Growth Factor, His Active Mouse Recombinant

GRF0036

Product Overview

Name	EGF Mouse, His Active
Accession(Primary)	P01132
Description	Epidermal Growth Factor, His Active Mouse Recombinant

Target information (P01132)

Gene Name

About Gene Symbol

Background

Deciphering Epidermal Growth Factor Signaling: Unveiling the Potential of His-Tagged Active Mouse Recombinant Abstract: This research paper delves into the intricate realm of Epidermal Growth Factor (EGF) signaling, focusing on the novel application of Histidine (His)-tagged Active Mouse Recombinant EGF. By employing sophisticated methodologies encompassing protein engineering, receptor binding assays, and cellular response analyses, this study sheds light on the multifaceted molecular attributes and therapeutic prospects of this innovative variant. Introduction: Epidermal Growth Factor (EGF) orchestrates pivotal cellular processes. This paper delves into the intricate signaling dynamics of EGF, with a spotlight on the innovative approach of utilizing His-Tagged Active Mouse Recombinant EGF to unravel its complexities and therapeutic potential. Protein Engineering and His-Tag Integration: The study embarks on strategic protein engineering, introducing a Histidine (His) Tag to the Active Mouse Recombinant EGF. This His-Tag facilitates purification and subsequent analyses, enabling a comprehensive exploration of EGF signaling. Receptor Binding Assays and Ligand Interaction: Advanced receptor binding assays unravel the nuances of EGF's interaction with its cognate receptor,

including affinities and kinetics. By employing His-Tagged EGF, the study dissects the impact of the tag on receptor binding, shedding light on its potential implications on downstream signaling. Cellular Responses and Pathway Activation: In vitro cellular assays unveil the complex web of signaling pathways triggered by EGF. The study employs high-throughput techniques to investigate the intricate cascades initiated by His-Tagged Active Mouse Recombinant EGF, providing insights into its potential role in cell proliferation, migration, and survival. Structural Dynamics and Conformational Insights: In-depth biophysical analyses, including nuclear magnetic resonance (NMR) spectroscopy, delve into the structural dynamics of His-Tagged EGF. This sheds light on potential conformational changes induced by the tag and their impact on receptor binding affinity. Therapeutic Implications and Future Prospects: The integration of a His Tag not only facilitates purification but also offers avenues for targeted therapies. His-Tagged EGF could serve as a platform for tailored drug delivery, enhancing the precision of interventions in various pathologies. Challenges and Future Research Directions: While the His Tag offers immense potential, challenges such as potential interference with receptor binding warrant scrutiny. Future research should focus on optimizing the positioning of the tag and exploring its impact on downstream signaling cascades. Conclusion: In a synthesis of innovative methodologies and visionary insights, the integration of a His Tag into Active Mouse Recombinant EGF emerges as a paradigm-shifting approach. This technique not only enriches our understanding of EGF signaling dynamics but also presents exciting prospects for personalized therapeutic interventions.

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. Wells JA, Powers DB. In vivo formation of disulfide bonds in secreted proteins. J Biol Chem. 1986;261(18):8595-8598. 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.