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ACVRL1 Human

Activin A Receptor Type II-Like 1 Human Recombinant

GRF0011

Product Overview

Name	ACVRL1 Human
Catalog #	GRF0011
Accession(Primary)	P37023
Description	Activin A Receptor Type II-Like 1 Human Recombinant
Precautions	

Target information(P37023)

Synonyms

Gene ID

Other Names

Function

Cellular location

Note

Background

The Physiological Implications and Therapeutic Potential of Activin A Receptor Type II-Like 1 Human Recombinant 1. Abstract This research paper investigates the Activin A Receptor Type II-Like 1 Human Recombinant (ACVRL1), a significant protein involved in the TGF-beta superfamily signaling pathway. We provide an extensive understanding of ACVRL1's structure, signaling mechanism, biological functions, and implications in disease pathology. Additionally, we explore the therapeutic potential of ACVRL1 in various pathological conditions. 2. Introduction ACVRL1, also known as ALK1, plays an essential role in the TGF-beta signaling pathway, which has implications in cellular proliferation, differentiation, and apoptosis. Understanding ACVRL1 and its signaling mechanisms could provide insights into its potential therapeutic applications in various diseases. 3. Structure and Signaling of ACVRL1 ACVRL1

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is a type I receptor protein involved in the TGF-beta signaling pathway. It is a transmembrane protein that consists of a ligand-binding extracellular domain and an intracellular domain responsible for signal transduction. Binding of ligands to ACVRL1 triggers phosphorylation events that activate downstream signaling pathways. 4. Biological Functions of ACVRL1 ACVRL1 plays pivotal roles in multiple biological processes, including vascular development, angiogenesis, and maintenance of vascular integrity. It is known to influence cellular processes such as proliferation, differentiation, and apoptosis, thereby implicating it in organogenesis and homeostasis. 5. ACVRL1 in Disease Pathology Mutations in the ACVRL1 gene have been associated with hereditary hemorrhagic telangiectasia (HHT), a genetic disorder characterized by abnormal blood vessel formation. This link underscores the critical role of ACVRL1 in vascular biology and disease. 6. Therapeutic Potential of ACVRL1 Given its crucial role in vascular biology and its link to HHT, ACVRL1 presents a promising target for therapeutic interventions. Modulation of ACVRL1 signaling could potentially provide treatment options for pathological conditions related to abnormal blood vessel formation and function. 7. Conclusion and Future Perspectives Our understanding of ACVRL1 and its functions has grown significantly in recent years, but there is much yet to be discovered. Continued research into ACVRL1's precise molecular mechanisms and its roles in disease will undoubtedly open new doors for therapeutic development.