

Recombinant Human Activin A Receptor, Type IB

Cat. No. ACVR1B-1584H Lot. No. (See product label)

SPECIFICATION

Product Overview

Species Human

Source Mammalian Cells

Description

Activin RIB, also known as ALK4, is a glycosylated type I receptor in the superfamily of TGF- β serine/threonine kinase receptors. Activin RIB associates with Activin RIIIB to form a receptor complex for activin and inhibin molecules. These ligands bind to Activin RIIIB which then associates with and phosphorylates the cytoplasmic domain of Activin RIB to initiate signal transduction. Within the ECD, human Activin RIB shares 93% and 95% aa sequence identity with mouse and rat Activin RIB, respectively. It shares 25% - 35% aa sequence identity with other human type I receptors Activin RIA, Activin RIC, BMPR-IA, BMPR-IB, and TGF- β R1. Alternately spliced isoforms of Activin RIB have deletions in the cytoplasmic domain and function as dominant negative inhibitors of activin signaling. Activin receptor signaling is modulated by the direct interaction of Activin RIB with cripto or inhibin binding protein. Activin RIB is excluded from the signaling complex if Activin RIIIB first binds inhibin and betaglycan. Activin RIB functions in a wide variety of growth and differentiation processes, including embryonic cell fate and axis determination, cell proliferation and apoptosis, and tumorigenesis.

State Of Matter Lyophilized.

Purity >90% by SDS Page and analyzed by silver stain.

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Endotoxin	<1.0 EU/g as determined by the LAL method.
Molecular Weight	The predicted molecular weight of Recombinant Human Activin RIB is Mr 37.5 kDa. However, the actual molecular weight as observed by migration on SDS Page is Mr 45-50 kDa.
Storage And Stability	This lyophilized protein is stable for six to twelve months when stored desiccated at -20°C to -70°C. After aseptic reconstitution, this protein may be stored at 2°C to 8°C for one month or at -20°C to -70°C in a manual defrost freezer. Avoid Repeated Freeze Thaw Cycles.

GENE INFORMATION

Gene Name	ACVR1B activin A receptor, type IB [Homo sapiens]
Synonyms	activin A receptor, type IB; ALK4; SKR2; ACTRIB; ACVRLK4; ACVR1B; activin receptor-like kinase 4; activin A receptor, type II-like kinase 4; serine(threonine) protein kinase receptor R2; ACTR-IB; ALK-4; ActRIB; EC 2.7.11.30; Activin receptor-like kinase 4; Serine/threonine-protein kinase receptor R2; activin A type IB receptor
Gene ID	91
mRNA Refseq	NM_004302
Protein Refseq	NP_004293
MIM	601300
UniProt ID	P36896
Chromosome	12q13

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Location	
Pathway	Adherens junction; Chronic myeloid leukemia; Colorectal cancer; Cytokine-cytokine receptor interaction; Endocytosis; MAPK signaling pathway; Pancreatic cancer; Pathways in cancer; TGF-beta signaling pathway
Function	ATP binding; SMAD binding; activin binding; activin receptor activity, type I; growth factor binding; magnesium ion binding; manganese ion binding; nucleotide binding; protein serine/threonine kinase activity; receptor activity; transferase activity; ubiquitin protein ligase binding
PDB rendering based on 1rw8.	