Rat ACVR1B / ALK-4 Protein (Fc Tag)

Catalog Number: **80137-R02H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACTRIB; ACVRLK4; ALK4; SKR2; 6820432J04; ActR-IB; ActRIB; Acvrlk4; Alk4; SKR2

Protein Construction:

A DNA sequence encoding the rat ACVR1B (Met1-Glu126) was expressed with the Fc region of human IgG1 at the C-terminus.

Source: Rat

Expression Host: Human Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to bind with rat TDGF1-His (Cat:80135-R08H) in a functional ELISA.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Ser 24

Molecular Mass:

The recombinant rat ACVR1B/Fc is a disulfide-linked homodimer. The reduced monomer comprises 344 amino acids and has a predicted molecular mass of 38.4 kDa. The apparent molecular mass of the protein is approximately 42 and 34 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

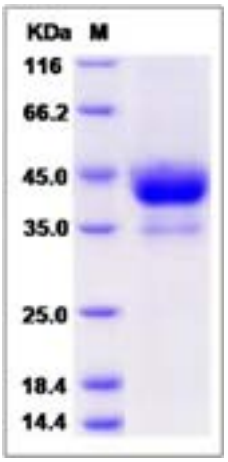
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

ALK-4 (Activin Receptor-Like Kinase 4) or ACVR1B (Activin A Receptor, type 1B), belongs to the protein kinase superfamily, TKL Ser/Thr protein kinase family, and TGFB receptor subfamily. ALK-4/ACVR1B acts as a transducer of activin or activin like ligands signals. Activin binds to either ACVR2A or ACVR2B and then forms a complex with ACVR1B. The known type II activin receptors include ActRII and ActRIIB, while the main type I activin receptor in mammalian cells is ALK-4 (ActRIB). In the presence of activin, type II and type I receptors form complexes whereby the type II receptors activate ALK-4 through phosphorylation. The activated ALK-4, in turn, transduces signals downstream by phosphorylation of its effectors, such as Smads, to regulate gene expression and affect cellular phenotype. ALK-4/ACVR1B is an important regulator of vertebrate development, with roles in mesoderm induction, primitive streak formation, gastrulation, dorsoanterior patterning, and left-right axis determination.

References

1. Chen Y, et al. (2005) Developmental analysis of activin-like kinase receptor-4 (ALK4) expression in Xenopus laevis. 232(2): 393-8.
2. J. Massagu. (1998) TGF- SIGNAL TRANSDUCTION. Annual Review of Biochemistry. 67: 753-91.