

Mouse ALK-2 / ACVR1 Protein (His & Fc Tag)

Catalog Number: 50297-M03H



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

Acvr1, RP23-100B18.4, ALK2, ActR-I, ActRIA, Acvr, Acvr1k2, Alk-2, Alk8, D330013D15Rik, SKR1, Tsk7L

Protein Construction:

A DNA sequence encoding the mouse ACVR1 (NP_031420.2) precursor (Met 1-Glu 123) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Mouse

Expression Host: Human Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio-Activity

Measure by its ability to bind with human BMP2 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 °C

Predicted N terminal: Val 21

Molecular Mass:

The secreted recombinant mouse ACVR1/Fc is a disulfide-linked homodimer after removal of the signal peptide. The reduced monomer comprises 351 amino acids with a predicted molecular mass of 40 kDa. As a result of glycosylation, it migrates as an approximately 45 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

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

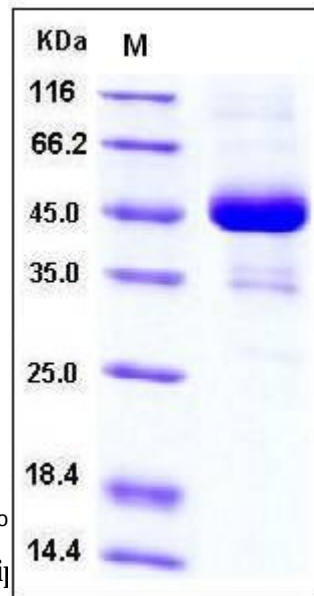
Usage Guide

Storage:

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

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution

he products.

Protein Description

Cytokines and hormones belonging to the transforming growth factor beta (TGFβ) superfamily such as the activin, anti-müllerian hormone (AMH), bone morphogenetic proteins (BMPs), and Nodal, are involved in a variety of physiological processes including growth, cell differentiation, homeostasis, osteogenesis, and apoptosis. They initiate signaling through heteromeric complexes of a type I and a type II serine/threonine kinase receptor. The two type receptors are type I transmembrane proteins and are distinguished by the presence of a glycine/serine-rich juxta-membrane domain found in the type I receptors. Type II receptors are required for binding ligands and recruitment of type I receptors which then form stable complexes, and type I receptors are essential for signaling transduction. ALK2, also termed as ACVR1, ActRI, SKR1, was initially identified as an activin type I receptor because of its ability to bind activin in concert with ActRII or IIB. In addition, ALK2 is also identified as a BMP type I receptor. ACVR1 has been demonstrated to form complex with either the BMP-2/7-bound BMPR-II or ACVR2A/ACVR2B and transduce signals to downstream components R-SMADs. Recombinant soluble ALK2 does not bind activin. Mutations in this gene are associated with fibrodysplasia ossificans progressive.

References

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2. ten Dijke, P. et al., 1994, Science. 264: 101-104.
3. Macias-Silva, M. et al., 1998, J. Biol. Chem. 273: 25628-25636.
4. Shore, EM. et al., 2006, Nature. Genetics. 38: 525-527.
5. Renlund, N. et al., 2007, J. Endocrinology. 195: 95-103.

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