Rat ALK-2 / ACVR1 / ALK2 Protein (Fc Tag)

Catalog Number: **80118-R02H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACVR1, Acvrlk2

Protein Construction:

A DNA sequence encoding the rat ACVR1 (P80201) (Met1-Glu123) was expressed, fused with the Fc region of human IgG1 at the C-terminus.

Source: Rat

Expression Host: Human Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

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: Met 21

Molecular Mass:

The recombinant rat ACVR1/Fc is a disulfide-linked homodimer. The reduced monomer comprises 344 amino acids and has a predicted molecular mass of 38.5 kDa. The apparent molecular mass of the protein is approximately 43 kDa 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.

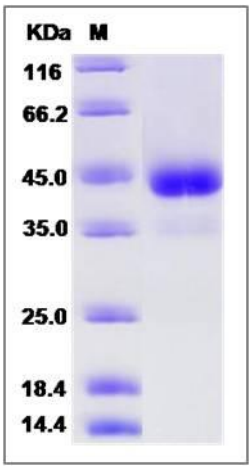
Usage Guide

Storage:

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

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the 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 I I 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

1. Attisano L. et al., 1993, Cell. 75: 671-80.
2. Ten Dijke P. et al., 1994, Science. 264: 101-4.
3. Macias-Silva M. et al., 1998, J Biol Chem. 273: 25628-36.
4. Shore EM. et al., 2006, Nature Genetics. 38: 525-7.
5. Renlund N. et al., 2007, J Endocrinology. 195: 95-103.