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

Catalog Number: **10227-H03H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACVR1, ACTRI, ACVR1A, ACVRLK2, ALK2, FOP, SKR1, TSRI

Protein Construction:

A DNA sequence encoding the extracellular domain (Met 1-Val 124) of human ALK2 (NP_001104537.1) precursor was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 95 % 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 ℃

Predicted N terminal: Met 21

Molecular Mass:

The recombinant human ALK2/Fc is a disulfide-linked homodimeric Protein after removal of the signal peptide. Each monomer consists of 352 amino acids and predicts a molecular mass of 39.6 kDa. As a result of glycosylation, the rh ALK2/Fc monomer migrates as approximately 40-45 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.

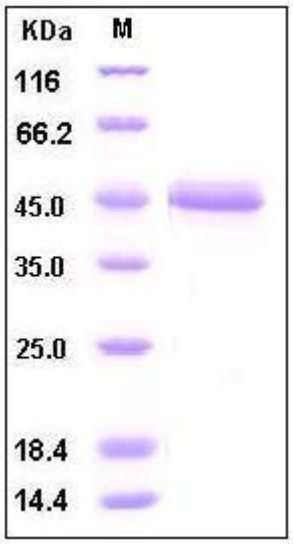
Usage Guide

Storage:

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

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitutio h 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 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

1. Attisano, L. et al., 1993, Cell. 75: 671-680.
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.