Rat ALK-1 / ACVRL1 Protein (His & Fc Tag)

Catalog Number: **10596-R03H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

R3, R-3, SETHKIR, MGC91691, Acvrl1

Protein Construction:

A synthetic DNA sequence encoding the rat ACVRL1 (NP_071886.1) extracellular domain (Met 1-Ala 118) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Rat

Expression Host: Human Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio-Activity

Measured by its ability to inhibit BMP9 induced alkaline phosphatase production by MC3T3E1 mouse chondrogenic cells. David, L. et al. (2007) Blood 109:1953.
The ED50 for this effect is typically 40-200 ng/mL in the presence of 2 ng/mL of recombiant human BMP9.

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: Asp 17

Molecular Mass:

The secreted recombinant rat ACVRL1/Fc is a disulfide-linked homodimer after removal of the signal peptide. The reduced monomer comprises 343 amino acids with a predicted molecular mass of 38.7 kDa. As a result of glycosylation, it migrates as an approximately 50-55 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.

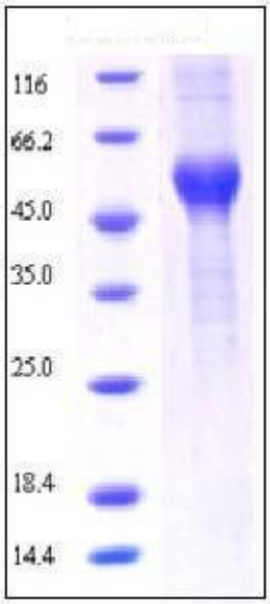
Usage Guide

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 ith the products.

Protein Descri

ALK1 is a type I cell-surface receptor for the TGF-beta superfamily of ligands. The heteromeric receptor complex consists of two types (I and II) transmembrane serine/threonine kinases, among which, constitutively active Type II receptors phosphorylate and activate type I receptors on ligand binding, and in turn, type I kinase phosphorylates down stream signal molecules including various SMAD transcriptional regulators. ALK1 shares a high degree of similarity in serine-threonine kinase subdomains, a glycine- and serine-rich region (called the GS domain) preceding the kinase domain, and a short C-terminal tail with other activin receptor-like kinase proteins. ALK1 has been suggested to be implicated in the blood vessel development and repair. Mutations in this gene are associated with hemorrhagic telangiectasia type 2, also known as Rendu-Osler-Weber syndrome 2.

References

1. ten Dijke, P. et al., 1993, Oncogene. 8: 2879-2887.
2. Ye-Guang Chen. et al., 1999, J. Biol. Chem. 274: 3672-3677.
3. Panchenko, MP. et al., 1996, Am.J.Physiol. 270: 547-558.
4. Johnson, DW. et al., 1996, Nat. Genet. 13: 189-195.
5. Shoukier, M. et al., 2008, Clin. Genet. 73: 320-330.