

# Human ALK-1 / ACVRL1 Protein (Fc Tag)

Catalog Number: 10066-H02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

ACVRLK1; ALK-1; ALK1; HHT; HHT2; ORW2; SKR3; TSR-1

### Protein Construction:

A DNA sequence encoding the N-terminal segment (Met 1-Gln 118) of the extracellular domain of human ALK1 (NP\_000011.2) pro-protein was fused with the Fc region of human IgG1 at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** ≥ 97 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.

### Bio Activity:

Measured by its ability to inhibit BMP9 induced alkaline phosphatase production by MC3T3E1 mouse chondrogenic cells. The ED50 for this effect is typically 1-6 ng/mL in the presence of 2 ng/mL of recombinant human BMP9.

### Endotoxin:

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

**Predicted N terminal:** Asp 22

### Molecular Mass:

The mature recombinant human ALK1/Fc chimera is a disulfide-linked homodimeric protein. The reduced monomer comprises 335 amino acids and has a predicted molecular mass of 37.4 kDa. As a result of glycosylation, the recombinant monomer migrates as an approximately 45-50 kDa protein 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

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

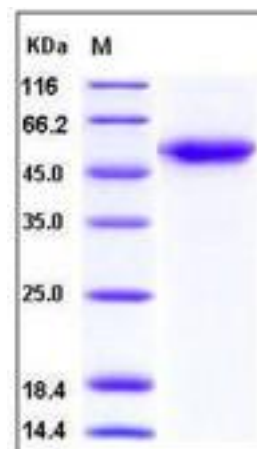
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Activin A receptor, type II-like 1 (ACVRL1), also known as ALK-1 (activin receptor-like kinase 1), is an endothelial-specific type I receptor of the TGF-beta (transforming growth factor beta) receptor family of ligands. On ligand binding, a heteromeric receptor complex forms consisting of two type II and two type I transmembrane serine/threonine kinases. ACVRL1 protein is expressed in certain blood vessels of kidney, spleen, heart and intestine, serving as an important role during vascular development. Mutations in ACVRL1 gene are associated with hemorrhagic telangiectasia type 2, also known as Rendu-Osler-Weber syndrome 2 and vascular disease.

## References

1. French Rendu-Osler network, *et al.* (2004) Molecular screening of ALK1/ACVRL1 and ENG genes in hereditary hemorrhagic telangiectasia in France. *Hum Mutat.* 23(4): 289-299.
2. Simon M, *et al.* (2006) Association of a polymorphism of the ACVRL1 gene with sporadic arteriovenous malformations of the central nervous system. *J Neurosurg.* 104(6): 945-9.
3. Argyriou L, *et al.* (2006) Novel mutations in the ENG and ACVRL1 genes causing hereditary hemorrhagic teleangiectasia. *Int J Mol Med.* 17(4):655-9.