

# Recombinant Human ALK-4/ACVR1B Protein

**Catalog No.:** RP00074 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	91	P36896-1

### Tags

C-hFc□his

### Synonyms

ACTRIB; ACVRLK4; ALK4;  
SKR2; ACVR1B; ACVRLK4; ALK4; SKR2

## Product Information

Source	Purification
HEK293 cells	> 97% by SDS-PAGE.

Calculated MW	Observed MW
40.37 kDa	45-50 kDa

### Endotoxin

&lt; 0.1 EU/μg of the protein by LAL method.

### Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Contact

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## Background

ALK-4 (Activin Receptor-Like Kinase 4) or ACVR1B (Activin A Receptor, type 1B), belongs to the protein kinase superfamily, TKL Ser/Thr protein kinase family, and TGFβ receptor subfamily. ALK-4/ACVR1B acts as a transducer of activin or activin like ligands signals. Activin binds to either ACVR2A or ACVR2B and then forms a complex with ACVR1B. The known type II activin receptors include ActRII and ActRIIB, while the main type I activin receptor in mammalian cells is ALK-4 (ActRIB). In the presence of activin, type II and type I receptors form complexes whereby the type II receptors activate ALK-4 through phosphorylation. The activated ALK-4, in turn, transduces signals downstream by phosphorylation of its effectors, such as Smads, to regulate gene expression and affect cellular phenotype. ALK-4/ACVR1B is an important regulator of vertebrate development, with roles in mesoderm induction, primitive streak formation, gastrulation, dorsoanterior patterning, and left-right axis determination.

## Basic Information

### Description

Recombinant Human ALK-4/ACVR1B Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Met 1-Glu 126) of human ACVR1B (Accession #NP\_004293.1) fused with a C-hFc□his at the C-terminus.

### Bio-Activity

Measured by its binding ability in a functional ELISA. Immobilized Human ACVR1B at 0.5 μg/mL (100 μL/well) can bind Human ACVR2B with a linear range of 2.0-286.1 ng/mL.

### Storage

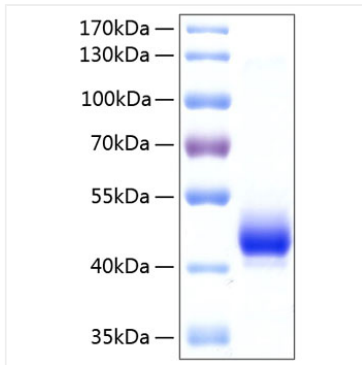
Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

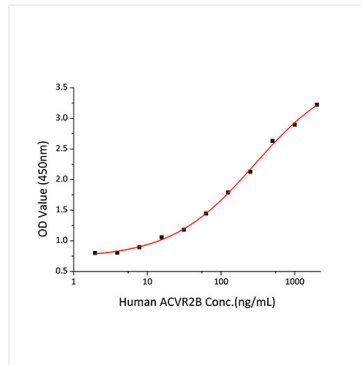
Avoid repeated freeze/thaw cycles.

## Validation Data

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Recombinant Human ALK-4/ACVR1B Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 46 kDa.



Immobilized Human ACVR1B at 0.5 $\mu$ g/mL (100  $\mu$ L/well) can bind Human ACVR2B with a linear range of 2.0-286.1ng/mL.