

# Human ACVR2B / ActivinR-IIB Protein (Fc Tag)

Catalog Number: 10229-H02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

Activin RIIB; ActR-IIB; ACTRIIB; HTX4

### Protein Construction:

A DNA sequence encoding the N-terminal segment (Met 1-Thr 134) from the extracellular domain of human ACVR2B (NP\_001097.2) was expressed with the fused human IgG1 Fc region at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

### Bio Activity:

1. Measured by its ability to neutralize Activin-mediated inhibition on MPC11 cell proliferation. The ED<sub>50</sub> for this effect is typically 0.02-0.1 µg/mL in the presence of 10 ng/mL recombinant Activin A. 2. Measured by its binding ability in a functional ELISA. 3. Immobilized human ACVR2B (Cat:10229-H02H) at 10 µg/mL (100 µl/well) can bind biotinylated human INHBA-His (Cat:10429-H08H). The EC<sub>50</sub> of biotinylated human INHBA-His (Cat:10429-H08H) is 0.112 µg/mL. 4. Immobilized human ACVR2B (Cat:10229-H02H) at 10 µg/mL (100 µl/well) can bind biotinylated mouse INHBA-His (Cat:Cat:50659-M08H). The EC<sub>50</sub> of biotinylated mouse INHBA-His (Cat:Cat:50659-M08H) is 0.161 µg/mL.

### 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 °C

**Predicted N terminal:** Ser 19

### Molecular Mass:

The recombinant human ACVR2B/Fc chimera is a disulfide-linked homodimer generated after removal of the signal peptide. The reduced monomer comprises 354 amino acids and predicts a molecular mass of 40.0 kDa. As a result of glycosylation, the monomer migrates as an approximately 60-65 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

### Storage:

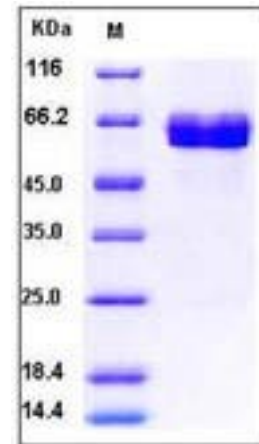
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

### SDS-PAGE:



## Protein Description

ACVR2A and ACVR2B are two activin type II receptors. ACVR2B is integral to the activin and myostatin signaling pathway. Ligands such as activin and myostatin bind to ACVR2A and ACVR2B. Myostatin, a negative regulator of skeletal muscle growth, is regarded as a potential therapeutic target and binds to ACVR2B effectively, and to a lesser extent, to ACVR2A. The structure of human ACVR2B kinase domain in complex with adenine establishes the conserved bilobal architecture consistent with all other catalytic kinase domains. Haplotype structure at the ACVR2B and follistatin loci may contribute to interindividual variation in skeletal muscle mass and strength. Defects in ACVR2B are a cause of left-right axis malformations.

### References

1. Kosaki R, *et al.* (1999) Left-right axis malformations associated with mutations in ACVR2B, the gene for human activin receptor type IIB. *Am J Med Genet.* 82(1):70-6. 2. Dupont S, *et al.* (2001) No evidence for linkage or for diabetes-associated mutations in the activin type 2B receptor gene (ACVR2B) in French patients with mature-onset diabetes of the young or type 2 diabetes. *Diabetes* 50(5):1219-21. 3. Albertson RC, *et al.* (2005) Zebrafish *acvr2a* and *acvr2b* exhibit distinct roles in craniofacial development. *Developmental dynamics* 233(4): 1405-18.

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