

## **Synonym**

ACTRIIB, ActR-IIB, HTX4

#### Source

Human Activin RIB & Activin RIIB Protein, Fc Tag&Fc Tag(ACB-H5253) is expressed from human 293 cells (HEK293). It contains AA Gly 25 - Glu 126 & Gly 20 - Pro 133 (Accession # P36896-1 & Q13705-1).

### **Molecular Characterization**

Activin RIB (Gly 25 - Glu 126)	Fc(Pro 100 - Lys 330)
P36896-1	P01857
Activin RIIB (Gly 20 - Pro 133)	Fc(Pro 100 - Lys 330)
Q13705-1	P01857

The protein has a calculated MW of 37 kDa & 39.1 kDa. The protein migrates as 80-95 kDa and >150 kDa when calibrated against <u>Star Ribbon Pre-stained</u> <u>Protein Marker</u> under non-reducing (NR) condition (SDS-PAGE) due to glycosylation.

#### **Endotoxin**

Less than 1.0 EU per µg by the LAL method.

# **Purity**

>90% as determined by SDS-PAGE.

#### **Formulation**

Lyophilized from  $0.22~\mu m$  filtered solution in 50~mM Tris, 100~mM Glycine, 25~mM Arginine, 150~mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

#### Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

### Storage

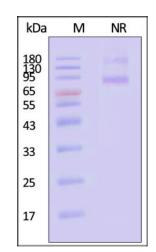
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## **SDS-PAGE**

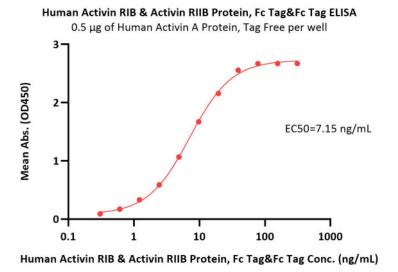


Human Activin RIB & Activin RIIB Protein, Fc Tag&Fc Tag on SDS-PAGE under non-reducing (NR) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

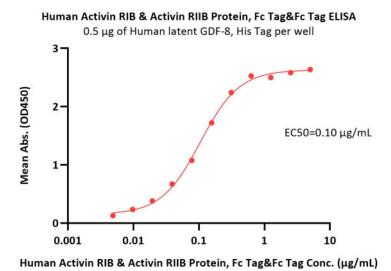
**Bioactivity-ELISA** 







Immobilized Human Activin A Protein, Tag Free (Cat. No. ACA-H421b) at 5  $\mu$ g/mL (100  $\mu$ L/well) can bind Human Activin RIB & Activin RIB Protein, Fc Tag&Fc Tag (Cat. No. ACB-H5253) with a linear range of 0.3-10 ng/mL (QC tested).



Immobilized Human latent GDF-8, His Tag (Cat. No. GD8-H5243) at 5  $\mu$ g/mL (100  $\mu$ L/well) can bind Human Activin RIB & Activin RIIB Protein, Fc Tag&Fc Tag (Cat. No. ACB-H5253) with a linear range of 0.005-0.156  $\mu$ g/mL (Routinely tested).

## Background

Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I (I and IB) and two type II (II and IIB) receptors. These receptors are all transmembrane proteins, composed of a ligand-binding extracellular domain with cysteine-rich region, a transmembrane domain, and a cytoplasmic domain with predicted serine/threonine specificity. Type I receptors are essential for signaling; and type II receptors are required for binding ligands and for expression of type I receptors. Type I and II receptors form a stable complex after ligand binding, resulting in phosphorylation of type I receptors by type II receptors. Type II receptors are considered to be constitutively active kinases. This gene encodes activin A type IIB receptor, which displays a 3- to 4-fold higher affinity for the ligand than activin A type II receptor.

# **Clinical and Translational Updates**

