

# Human Activin A Protein

Cat. No. ACV-HM001

## Description

<b>Source</b>	Recombinant Human Activin A Protein is expressed from HEK293 without tag. It contains Gly311-Ser426.
<b>Accession</b>	P08476
<b>Molecular Weight</b>	The protein has a predicted MW of 12.97 kDa. Due to glycosylation, the protein migrates to 14-15 kDa under reduced (R) condition, and 23-25 kDa under Non reducing (N) condition based on Bis-Tris PAGE result.
<b>Endotoxin</b>	Less than 0.1EU per µg by the LAL method.
<b>Purity</b>	> 95% as determined by Bis-Tris PAGE

## Formulation and Storage

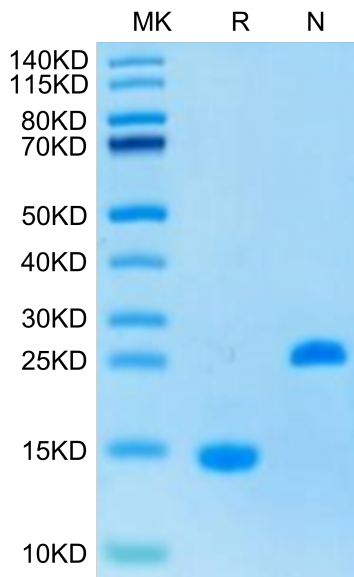
<b>Formulation</b>	Lyophilized from 0.22µm filtered solution in 4mM HCl. Normally 8% trehalose is added as protectant before lyophilization.
<b>Reconstitution</b>	Centrifuge the tube before opening. Reconstituting to a concentration more than 100 µg/ml is recommended. Dissolve the lyophilized protein in 4mM HCl.
<b>Storage</b>	-20 to -80°C for 12 months as supplied from date of receipt. -80°C for 3 months after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.

## Background

Activin-A, a member of the TGF-β superfamily, Extensive research over the past decades illuminated fundamental roles for activin-A in essential biologic processes, including embryonic development, stem cell maintenance and differentiation, haematopoiesis, cell proliferation and tissue fibrosis. Activin-A signals through two type I and two type II receptors which, upon ligand binding, activate their kinase activity, phosphorylate the SMAD2 and 3 intracellular signaling mediators that form a complex with SMAD4, translocate to the nucleus and activate or silence gene expression.

## Assay Data

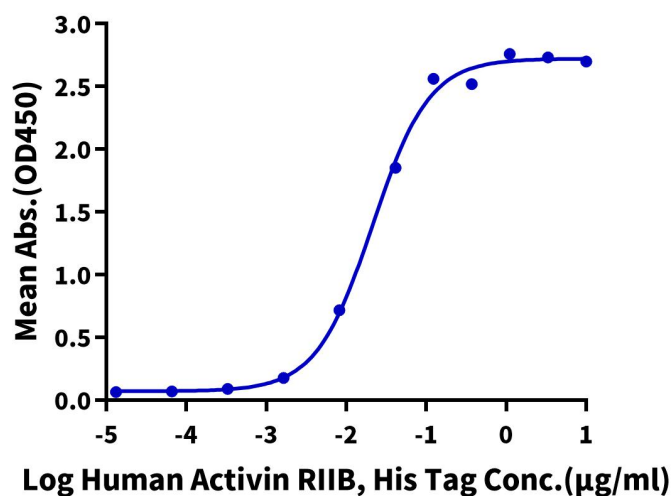
### Bis-Tris PAGE



Human Activin A on Bis-Tris PAGE under reduced (R) condition and Non reducing (N) condition. The purity is greater than 95%.

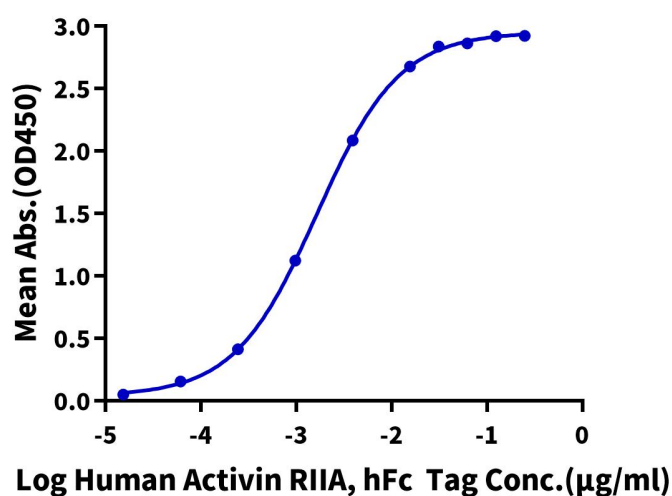
### ELISA Data

## Assay Data

**Human Activin A, No Tag ELISA**0.1 $\mu$ g Human Activin A, No Tag Per Well

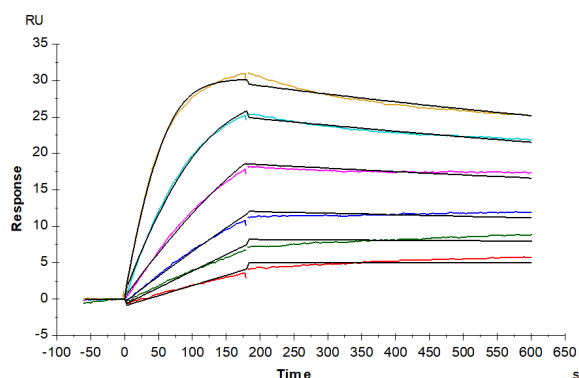
Immobilized Human Activin A, No Tag at 1 $\mu$ g/ml (100 $\mu$ l/well) on the plate. Dose response curve for Human Activin RII B, His Tag with the EC50 of 21.4ng/ml determined by ELISA (QC Test).

## ELISA Data

**Human Activin A, No Tag ELISA**0.1 $\mu$ g Human Activin A, No Tag Per Well

Immobilized Human Activin A, No Tag at 1 $\mu$ g/ml (100 $\mu$ l/well) on the plate. Dose response curve for Human Activin RII A, hFc Tag with the EC50 of 1.6ng/ml determined by ELISA.

## SPR Data

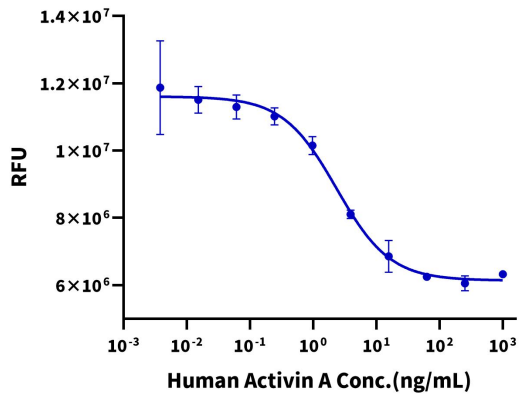


Biotinylated Human Activin RII B, His Tag captured on CM5 Chip via Anti-His Antibody can bind Human Activin A, No Tag with an affinity constant of 55.35  $\mu$ M as determined in SPR assay (Biacore T200).

## Cell Based Assay

Assay Data

Recombinant Human Activin A Bioactivity



Measured by its ability to inhibit proliferation of MPC-11 cells. The ED50 for this effect is < 7 ng/mL (QC Test).