



## Synonym

Activin A,INHBA

## Source

Human Activin A, premium grade(ACA-H421b) is expressed from human 293 cells (HEK293). It contains AA Gly 311 - Ser 426 (Accession # [AAH07858.1](#)).

Predicted N-terminus: Gly 311

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

## Molecular Characterization

Activin A(Gly 311 - Ser 426)  
AAH07858.1

This protein carries no "tag".

The protein has a calculated MW of 13.0 kDa. The protein migrates as 14-15 kDa under reducing (R) condition, and 23-25 kDa under non-reducing (NR) condition (SDS-PAGE) due to glycosylation.

## Endotoxin

Less than 0.1 EU per µg by the LAL method.

## Sterility

The sterility testing was performed by membrane filtration method.

## Mycoplasma

Negative.

## Purity

>95% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22 µm filtered solution in 0.056% TFA in 30% ACN 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

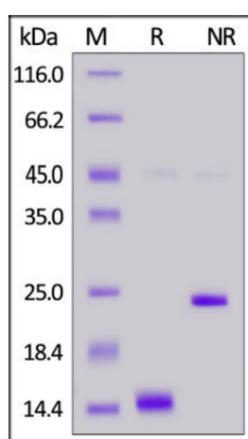
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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 A, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

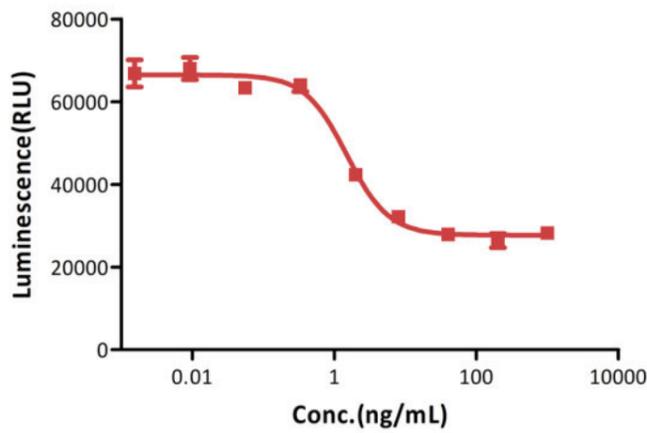
## Bioactivity-Bioactivity CELL BASE

Discounts, Gifts,  
and more!





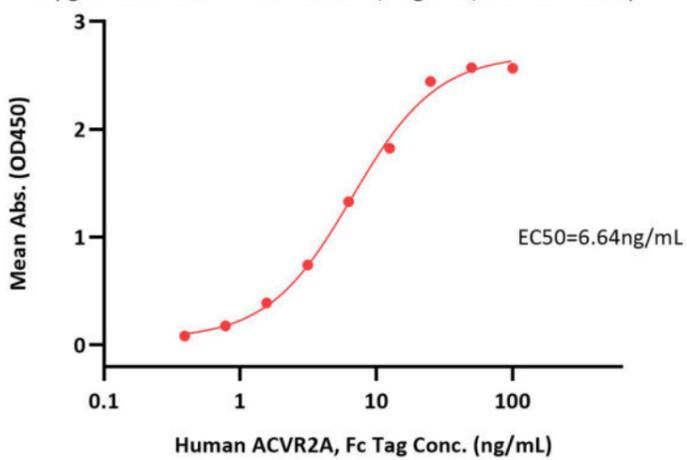
Human Activin A, premium grade inhibits the proliferation of MPC-11 cells



Human Activin A, premium grade (Cat. No. ACA-H421b) inhibits the proliferation of MPC-11 cells. The specific activity of Human Activin A, premium grade is  $>5.00 \times 10^2$  IU/mg, which is calibrated against WHO Reference Reagent Activin A (Human, Recombinant) NIBSC code: 91/626 (QC tested).

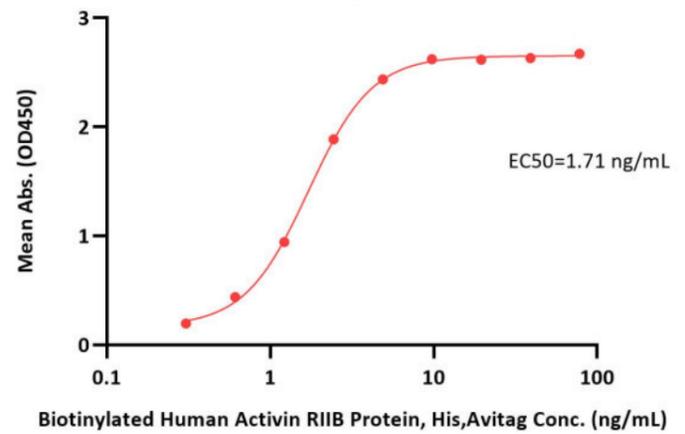
**Bioactivity-ELISA**

ActiveMax Human Activin A, Tag Free, low endotoxin ELISA  
0.5 µg of ActiveMax Human Activin A, Tag Free, low endotoxin per well



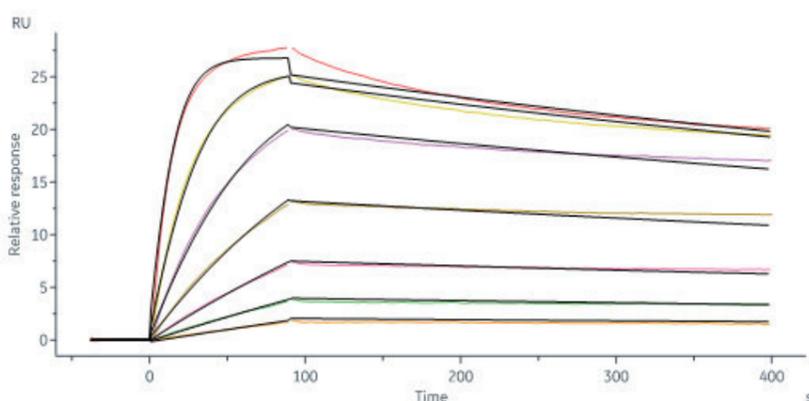
Immobilized Human Activin A, premium grade (Cat. No. ACA-H421b) at 5 µg/mL (100 µL/well) can bind Human ACVR2A, Fc Tag (Cat. No. ACA-H5269) with a linear range of 0.4-25 ng/mL (QC tested).

Biotinylated Human Activin RIIB Protein, His,Avitag ELISA  
0.5 µg of Human Activin A, premium grade per well



Immobilized Human Activin A, premium grade (Cat. No. ACA-H421b) at 5 µg/mL (100 µL/well) can bind Biotinylated Human Activin RIIB Protein, His,Avitag (Cat. No. ACB-H82E3) with a linear range of 0.3-5 ng/mL (Routinely tested).

**Bioactivity-SPR**



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## Human Activin A / INHBA Protein, premium grade

Catalog # ACA-H421b



BIOSYSTEMS  
**Acro**

Human Activin RIIB, His Tag (Cat. No. ACB-H5226) immobilized on CM5 Chip can bind Human Activin A, premium grade (Cat. No. ACA-H421b) with an affinity constant of 0.216 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

### Background

Activin and inhibin are two closely related protein complexes that have almost directly opposite biological effects. Activin enhances FSH biosynthesis and secretion, and participates in the regulation of the menstrual cycle. Many other functions have been found to be exerted by activin, including roles in cell proliferation, differentiation, apoptosis, metabolism, homeostasis, immune response, wound repair, and endocrine function. Conversely inhibin down regulates FSH synthesis and inhibits FSH secretion. Activins are nonglycosylated homodimers or heterodimers of various  $\beta$  subunits ( $\beta$ A,  $\beta$ B,  $\beta$ C, and  $\beta$ E in mammals), while Inhibins are heterodimers of a unique  $\alpha$  subunit and one of the  $\beta$  subunits. Activin A is a widely expressed homodimer of two  $\beta$ A chains. The  $\beta$ A subunit can also heterodimerize with a  $\beta$ B or  $\beta$ C subunit to form Activin AB and Activin AC, respectively. The 14 kDa mature human  $\beta$ A chain shares 100% amino acid sequence identity with bovine, feline, mouse, porcine, and rat  $\beta$ A.

### Clinical and Translational Updates

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