Synonym

Activin A,INHBA

Source

Human Activin A Protein, Tag Free(ACA-H421b) is expressed from human 293 cells (HEK293). It contains AA Gly 311 - Ser 426 (Accession # AAH07858.1). Predicted N-terminus: Gly 311

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 / rFC method.

Sterility

Negative

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

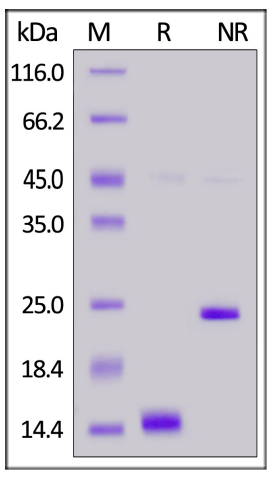
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

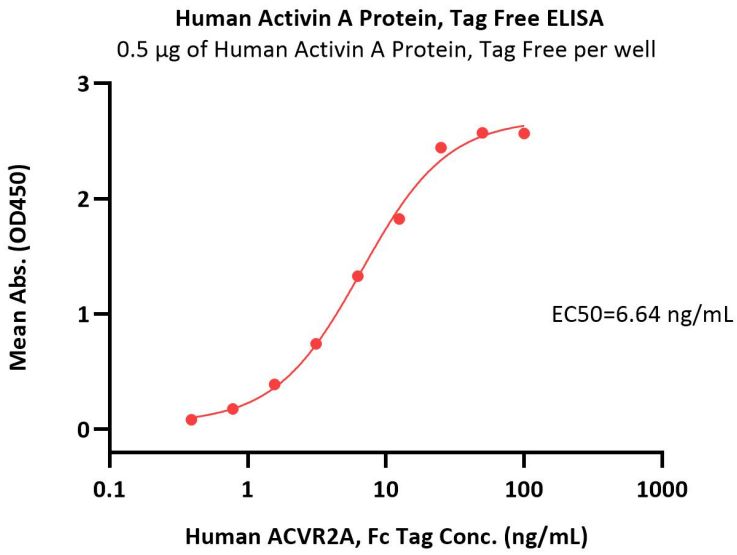
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

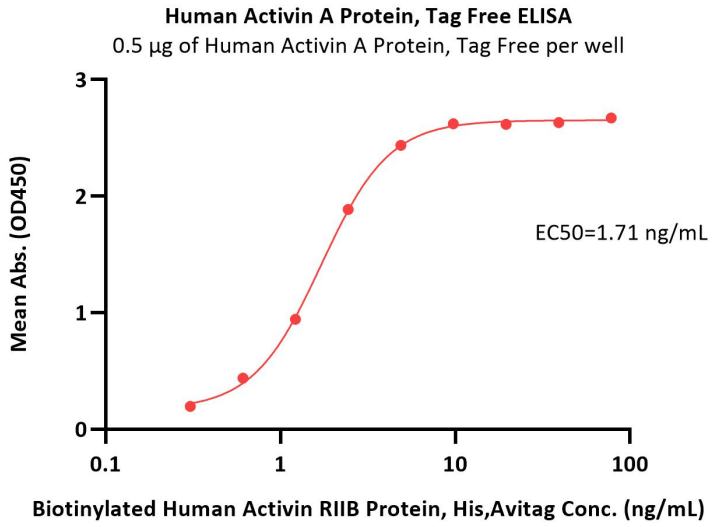


Human Activin A Protein, Tag Free on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA

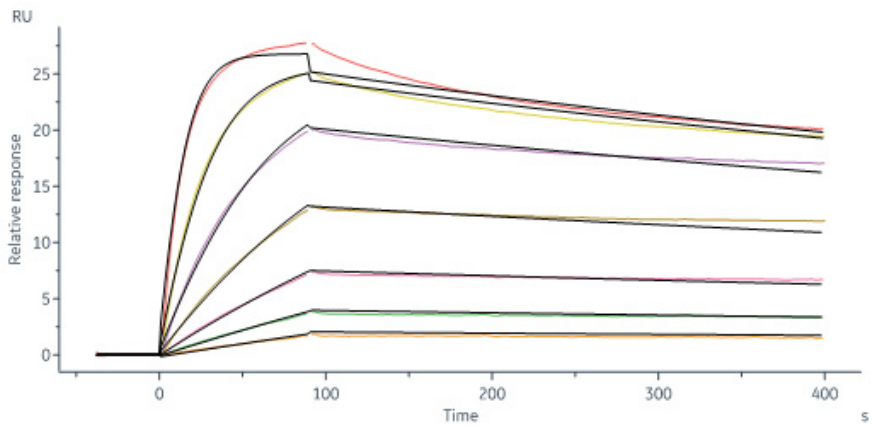


Immobilized Human Activin A Protein, Tag Free (Cat. No. ACA-H421b) at 5 μg/mL (100 μL/well) can bind Human ACVR2A, Fc Tag (Cat. No. ACA-H5269) with a linear range of 0.4-25 ng/mL (QC tested).



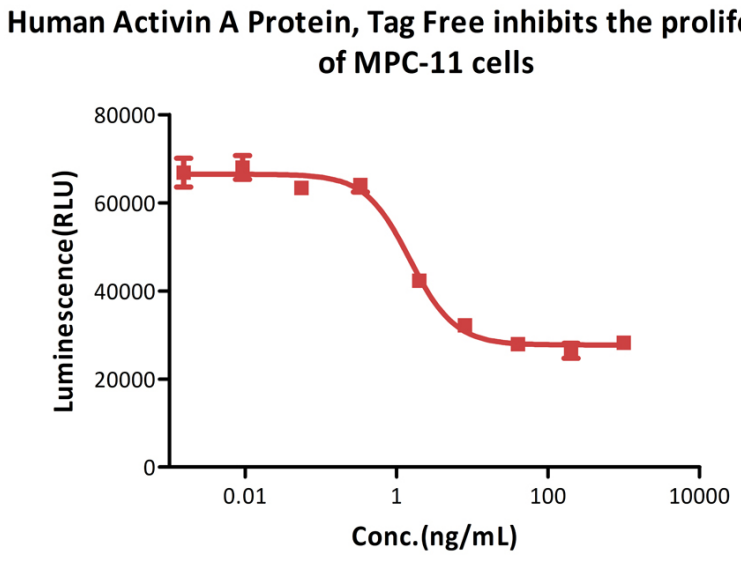
Immobilized Human Activin A Protein, Tag Free (Cat. No. ACA-H421b) at 5 μg/mL (100 μL/well) can bind Biotinylated Human Activin RIIB Protein, His,Avitag (Cat. No. ACB-H82E3) with a linear range of 0.3-5 ng/mL (Routinely tested).

Bioactivity-SPR



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

Bioactivity-CELL BASE



Human Activin A Protein, Tag Free (Cat. No. ACA-H421b) inhibits the proliferation of MPC-11 cells. The specific activity of Human Activin A Protein, Tag Free is > 5.00×10^2 IU/mg, which is calibrated against WHO Reference Reagent Activin A (Human, Recombinant) NIBSC code: 91/626 (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 β subunits (βA, βB, βC, and βE in mammals), while Inhibins are heterodimers of a unique α subunit and one of the β subunits. Activin A is a widely expressed homodimer of two βA chains. The βA subunit can also heterodimerize with a βB or βC subunit to form Activin AB and Activin AC, respectively. The 14 kDa mature human βA chain shares 100% amino acid sequence identity with bovine, feline, mouse, porcine, and rat βA.