

Recombinant mouse/rat activin A protein (Qk012)



Type: Stem cells

Available for purchase: unit size (µg): 25, 50, 100, 500, 1000

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Product Information

Activin A is a [TGF-β family](#) growth factor regulating embryonic development, cell proliferation, differentiation, and immune responses. Activin A is frequently used to maintain pluripotency in induced [pluripotent](#) and embryonic stem cell cultures. It is also used in many stem cell differentiation protocols, including endoderm lineage differentiation and further maturation into hepatocyte and pancreatic cells.

Recombinant mouse/rat activin A protein is a high-purity mature bioactive dimer of 26 kDa. It is [animal origin-free](#) (AOF), carrier protein-free, and tag-free to ensure its purity with exceptional lot-to-lot consistency.

Alternative protein names

ActA, Activin beta-A chain, Erythroid differentiation protein (EDP), Follicle-Stimulating Hormone (FSH) releasing protein (FRP), INHBA, Inhibin beta A, Inhibin beta 1, Qk12, Qk012

Molecular weight

26 kDa (dimer)

Protein Uniprot number

Bioactive mature domain of recombinant activin A protein, residues 311-426 (Uniprot: Q04998)

Species reactivity

- mouse
- rat
- species similarity:
- human - 100%
- bovine - 100%
- porcine - 100%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in 10 mM HCl (Reconstitution solution A) at >50 µg/ml

Featured applications

- Expansion of induced pluripotent, embryonic and mesenchymal stem cells
- Induced pluripotent stem cell culture and maintenance
- iPSC-derived mesoderm differentiation
- Differentiation of iPSC into endoderm
- Expansion and differentiation of mouse pluripotent stem cells

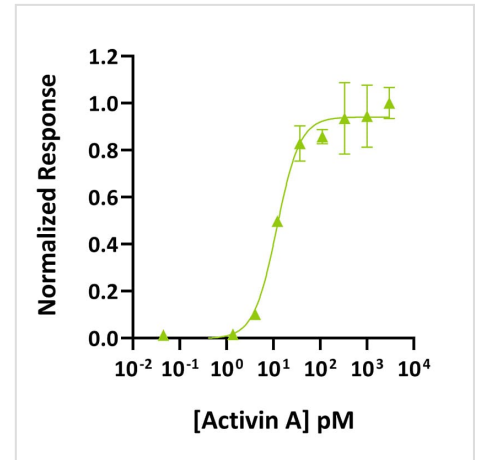
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

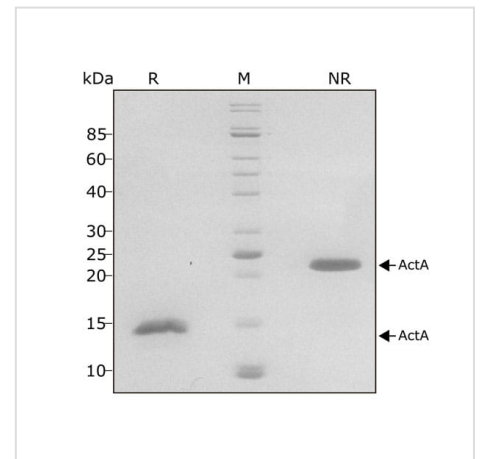
Bioactivity

Activin A activity was determined using the activin-responsive firefly luciferase reporter assay in transiently transfected HEK293T cells. Cells were treated in triplicate with a serial dilution of activin A. Firefly luciferase activity was measured and normalized. EC50 = 11.9 pM (309.4 pg/ml).



Purity

Activin A migrates as a single band at 24 kDa in non-reducing (NR) and 13 kDa as a single monomeric species upon reduction (R). No contaminating protein bands are visible. Purified recombinant protein (7 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced conditions (NR) and stained with Coomassie Brilliant Blue R250.



Original product page: <https://ryan.calliope-alpha.ts.net/product/recombinant-mouse-rat-activin-a-protein-qk012/>

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