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Recombinant human activin A protein (Qk001-CTG)



Type: Cell Therapy Grade

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 frequently used to maintain pluripotency in induced pluripotent and embryonic stem cell cultures. It is essential for many stem cell differentiation protocols, including endoderm lineage differentiation and further maturation into hepatocyte and pancreatic cells for regenerative cell therapy applications.

Cell therapy grade human 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.

Qkine cell therapy grade high purity animal origin-free proteins are manufactured as GMP grade equivalents in an ISO 9001:2015-certified facility, under ISO 20399:2022 standards with GMP compliance, defined quality criteria and documentation.

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, Qk1, Qk01, activin GMP

Molecular weight

26 kDa (dimer)

Protein Uniprot number

Bioactive mature domain of recombinant human activin A protein, residues 311-426 (Uniprot: P08476)

Species reactivity

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

Product Information

- Certified animal origin-free (AOF)
- Cell and gene therapy grade
- Manufactured in our ISO 9001:2015 facility in Cambridge, UK
- Lot-to-lot consistency in bioactivity
- Full traceability and documentation
- Carrier protein-free, tag free
- Expressed in *E. coli*
- 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
- Regenerative stem cell therapy
- Pluripotent stem cell therapy

Further quality assays

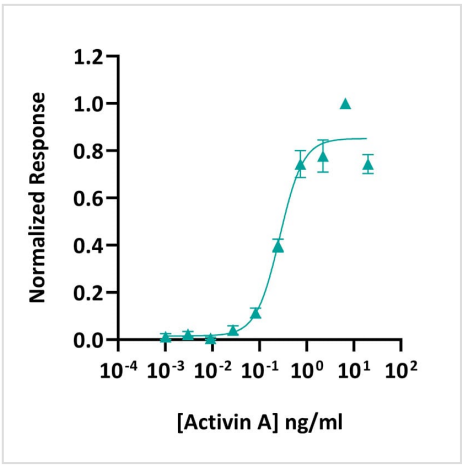
- Mass spectrometry: single species with expected mass
- Purity >98%, by SDS-PAGE quantitative densitometry
- Recovery from stock vial: >95%
- Sterility tested and mycoplasma negative
- Endotoxin: <0.05 EU/µg protein
- Residual host cell protein <10 ng/µg
- Residual host cell DNA <10 ng/µg

- N-terminal sequence analysis

Scientific Information

Bioactivity

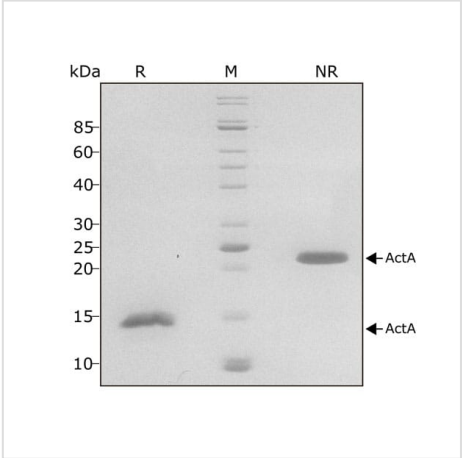
Recombinant activin A activity was determined using a CAGA luciferase reporter assay in transiently transfected HEK293 cells. Transfected cells were treated in triplicate with a serial dilution of activin A for 6 hours. Firefly activity was measured and normalized to the control Renilla luciferase activity. Data from Qk001 #204564. EC50 = 0.27 ng/ml (10.4 pM)



The specific activity of recombinant cell therapy grade activin A is >1.0 x 10^3 IU/mg, which is calibrated against the human activin A standard (NIBSC code: 91/626).

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-mercaptothanol, R) and non-reduced conditions (NR) and stained with Coomassie Brilliant Blue R250. Data from Qk001 lot #011.



Original product page: https://qkine.com/product/recombinant-human-activin-a-protein-qk001-ctg/

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