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Recombinant human nodal protein (Qk029)

Type: Stem cells, New

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

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Product Information

Nodal is a transforming growth factor β (TGF-β) family member which has an essential role in embryonic development. Nodal signaling controls endoderm and mesoderm germ layer specification whilst preventing neuroectoderm formation. It has also been implicated in cancer metastasis. Recombinant nodal has been found to maintain pluripotency in embryonic stem cells (hESCs) and induced pluripotent stem cells (iPSCs).

Qkine recombinant human nodal has been manufactured to be completely animal origin-free with reliable and consistent bioactivity for the reproducible maintenance of pluripotency in stem cells. Recombinant nodal is a 25.9 kDa homodimer, tag and carrier free.

This protein is also available as GMP compliant Cell Therapy Grade, to enquire email support@qkine.com.

Alternative protein names

Nodal Growth Differentiation Factor, Nodal Homolog, HTX5, Qk29

Molecular weight

25.9 kDa (homodimer)

Protein Uniprot number

High purity human nodal protein (UniProt: Q96S42)

Species reactivity

- human
- species similarity:
- mouse - 98%
- rat - 98%
- bovine - 96%*
- porcine - 97%*
- *sequences unconfirmed

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Animal origin-free (AOF) and carrier protein-free
- Expressed in *E. coli*
- Manufactured in our ISO 9001:2015 facility in Cambridge, UK
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

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

Featured applications

- iPSC-derived mesoderm differentiation
- Differentiation of iPSC into endoderm
- Cancer research
- Maintenance of pluripotency in iPSC
- Maintenance of undifferentiated embryonic stem cells

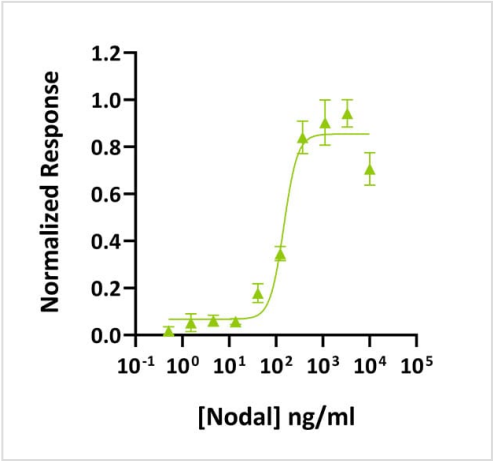
Further quality assays

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

Scientific Information

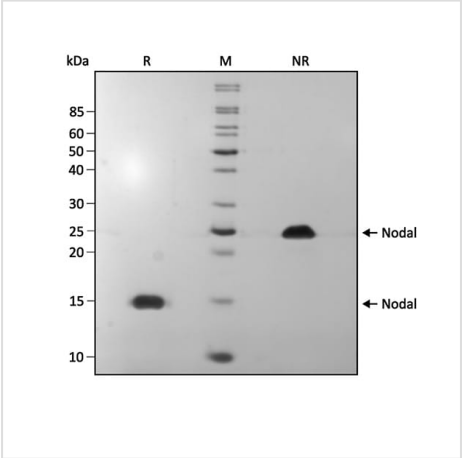
Bioactivity

Recombinant nodal activity was determined using a P19 cell CAGA luciferase reporter assay. Transfected P19 cells were treated in triplicate with a serial dilution of Nodal for 6 hours. Firefly activity was measured and normalized to the control Renilla luciferase activity. Data from Qk029 lot 204811. EC50 = 147 ng/ml (5.68 nM).



Purity

Recombinant nodal migrates as a major band at approximately 14 kDa (monomer) in reduced (R) and approximately 25 kDa (dimer) in non-reduced (NR) conditions. No contaminating protein bands are present. The purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced (NR) conditions and stained with Coomassie Brilliant Blue R250. Data from Qk029 lot #204811.



Original product page: https://qkine.com/product/recombinant-human-nodal-protein-qk029/

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