

Recombinant human noggin protein (Qk034)



Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Human noggin is a [bone morphogenetic protein \(BMP\) antagonist](#) which regulates cell differentiation and growth. Noggin is used in the culture of intestinal, pancreatic, lung and tumor-derived [organoids](#) and the maintenance of undifferentiated embryonic stem cells (ESC) and for stem cell differentiation into neural and microglial lineages.

Qkine human noggin (Qk034) is a highly pure, [animal origin-free](#), bioactive 46 kDa dimer for reproducible results in organoid culture.

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

Alternative protein names

Synostoses (multiple) syndrome 1, Symphalangism 1 (proximal), Qk34

Molecular weight

46 kDa (dimer)

Protein Uniprot number

High purity human noggin protein (Uniprot: Q13253)

Species reactivity

- human

- species similarity:
- mouse - 99%
- rat - 99%
- bovine - 99%
- porcine - 99%

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

- Tumor organoid culture
- Epithelial organoid culture
- Stem cell differentiation into neural and microglial lineages

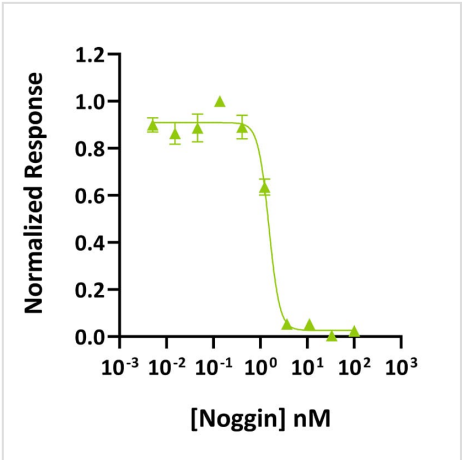
Further quality assays

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

Scientific Information

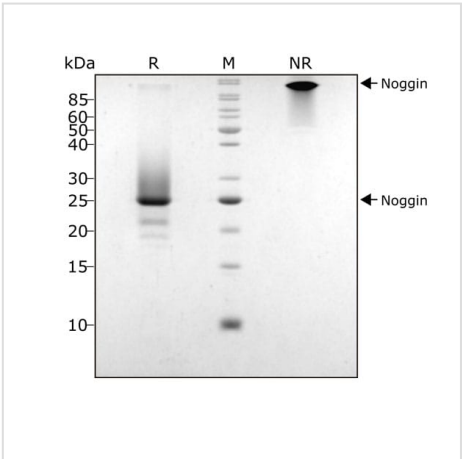
Bioactivity

Human noggin is a BMP inhibitor, and its activity is determined by inhibition of BMP-2 (Qk007) activity in a BMP-2 responsive firefly luciferase reporter assay. HEK293T cells were treated in triplicate with a serial dilution of noggin and a standard concentration of BMP-2 for 6 hours. Firefly luciferase activity was measured and normalized to the control Renilla luciferase activity. EC50 = 1.5 nM (70.1 ng/ml). Data from Qk034 lot #104291.



Purity

Noggin protein (Qk034) has an unusual migration in non-reduced (NR) SDS-PAGE due to the non-covalent dimer which is the active protein. Similar migration in SDS-PAGE is seen for [gremlin-1](#), a related BMP antagonist. The identity of the purified dimeric protein was confirmed using mass spectrometry. Upon reduction, the protein monomer migrates at 23 kDa. Purified recombinant human noggin 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. Data from Qk034 lot #104285.



Original product page: <https://qkine.com/product/recombinant-human-noggin-protein-qk034/>

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