

Cytokines

Mouse Recombinant Noggin



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Noggin

Catalog #	78061.1	5 µg
	78061	25 µg
	78061.2	1000 µg

Product Description

Noggin binds to and antagonizes bone morphogenic protein (BMP) ligands of the transforming growth factor - beta (TGF-β) family. Noggin supports maintenance of undifferentiated human embryonic stem cells cultured in mouse embryonic fibroblast (MEF)-conditioned medium (Chaturvedi et al.), and promotes dopaminergic differentiation of embryonic stem cells and subsequent survival of dopamine neurons (Chiba et al.). Noggin is essential for development of ectodermal structures including neural tube, tooth, hair follicle, and eye, as well as patterning of mesodermal somites and skeletal structures. It also influences chondrogenesis, osteogenesis and joint formation (Krause et al.).

Product Information

Alternative Names:	NOG, SYM1, SYNS1, Symphalangism 1 (proximal), Synostoses (multiple) syndrome
Accession Number:	P97466
Amino Acid Sequence:	LRAAPAGGQH YLHIRPAPSD NLPLVDLIEH PDPIFDPKEK DLNETLLRSL LGGHYDPGFM ATSPPEDRPG GGGGPAGGAE DLAELDQLLR QRPSGAMPSE IKGLEFSEGL AQGKKQRLSK KLRRKLQMWL WSQTFCPVLY AWNDLGSRFW PRYVKVGSCF SKRSCSVPEG MVCKPSKSVH LTVLRWRCQR RGGQRCGWIP IQYPISECK CSC
Predicted Molecular Mass:	29 - 31 kDa
Species:	Mouse
Cross Reactivity:	Not determined
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

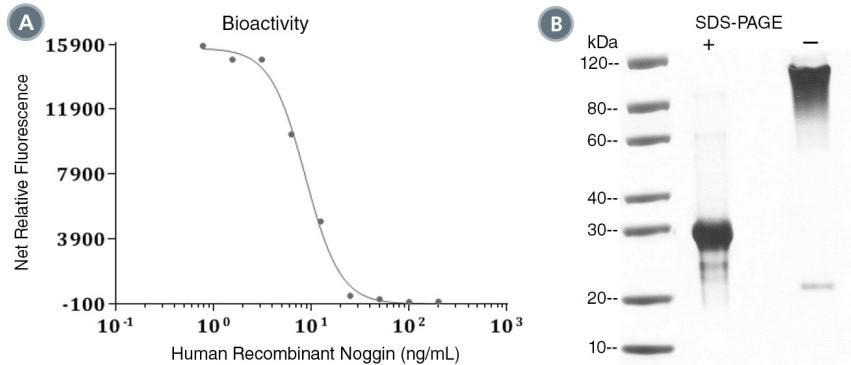
Specifications

Activity:	The specific activity is $\geq 1.67 \times 10^4$ units/mg ($EC_{50} \leq 60$ ng/mL) as determined by a bioassay using ATDC5 cells in the presence of 10 ng/mL human BMP-4.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Reconstitution:	Centrifuge vial before opening. Resuspend the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Mouse Recombinant Noggin was tested by its ability to inhibit BMP-4 induced alkaline phosphatase production of ATDC-5 cells. Inhibition of BMP-4 induced alkaline phosphatase production was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which inhibition of alkaline phosphatase production is at 50% of maximum. The EC₅₀ in the above example is 8.7 ng/mL.

(B) 2 µg of Mouse Recombinant Noggin was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant Noggin has a predicted molecular mass of 29 - 31 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Chaturvedi G et al. (2009) Noggin maintains pluripotency of human embryonic stem cells grown on Matrigel. *Cell Prolif* 42(4): 425–33.
- Chiba S et al. (2008) Noggin enhances dopamine neuron production from human embryonic stem cells and improves behavioral outcome after transplantation into Parkinsonian rats. *Stem Cells* 26(11): 2810–20.
- Krause C et al. (2011) Noggin. *Int J Biochem Cell Biol* 43(4): 478–81.

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