TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT WWW.STEMCELL.COM

Mouse Recombinant Noggin

Noggin

Catalog #78061.1	5 µg
Catalog #78061	25 µg
Catalog #78061.2	1000 µg

Product Description

Noggin binds to and antagonizes bone morphogenetic 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
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 IQYPIISECK CSC
Predicted Molecular Mass:	23.8 kDa
Species:	Mouse
Product Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO
Purity:	≥ 95%

Specifications

Activity:	The specific activity is ≥ 1.67 x 10^4 units/mg (EC50 ≤ 60 ng/mL), as determined by a bioassay using ATDC5 cells in the presence of 10 ng/mL human BMP-4.
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Stability and Storage: Store at -80°C. Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.
As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 2 months. Avoid repeated freeze-thaw cycles.

Data

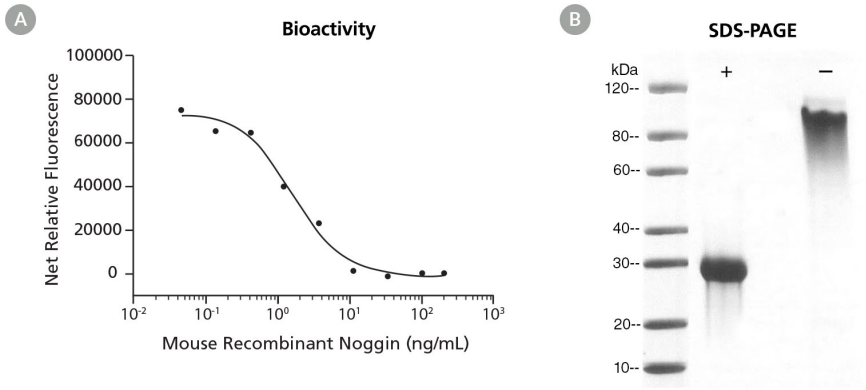

Figure 1. Biological Activity and Molecular Mass of Mouse Recombinant Noggin

(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. Inhibitition 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 23.8 kDa.

Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit 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.