



Noggin (1D2-G8-G1): sc-517561

BACKGROUND

Genetic differentiation of the vertebrate somite necessitates a balance of inductive signals and antagonists. Noggin is a secreted protein that binds and inactivates members of the transforming growth factor- β (TGF β) superfamily of signaling proteins, such as bone morphogenetic proteins-2, 4, 7 (BMP2, BMP4, BMP7). Inhibition of BMP signaling by axially secreted Noggin mediates normal vertebrate skeletogenesis and patterning of the neural tube and somite. Spatially, Noggin may effectively antagonize BMP activity by efficiently diffusing through extracellular matrices, thereby creating morpho-genic gradients. Mice embryos that are homozygous null for Noggin, a lethal genotype, display stubby, continuous limbs with lack of joints in the paws and an array of other developmental defects.

REFERENCES

1. Valenzuela, D.M., et al. 1995. Identification of mammalian noggin and its expression in the adult nervous system. *J. Neurosci.* 15: 6077-6084.
2. Zimmerman, L.B., et al. 1996. The Spemann organizer signal noggin binds and inactivates bone morphogenetic protein 4. *Cell* 86: 599-606.
3. McMahon, J.A., et al. 1998. Noggin-mediated antagonism of BMP signaling is required for growth and patterning of the neural tube and somite. *Genes Dev.* 12: 1438-1452.
4. Gong, Y., et al. 1999. Heterozygous mutations in the gene encoding noggin affect human joint morphogenesis. *Nat. Genet.* 21: 302-334.
5. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 602991. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. LocusLink Report (LocusID: 9241). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: NOG (human) mapping to 17q22.

SOURCE

Noggin (1D2-G8-G1) is a mouse monoclonal antibody raised against recombinant Noggin protein fragments of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Noggin (1D2-G8-G1) is recommended for detection of Noggin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for Noggin siRNA (h): sc-42138, Noggin shRNA Plasmid (h): sc-42138-SH and Noggin shRNA (h) Lentiviral Particles: sc-42138-V.

Molecular Weight of Noggin monomer: 32 kDa.

Molecular Weight of Noggin dimer: 64 kDa.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.