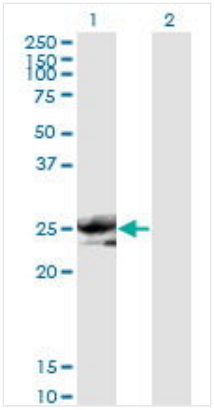
NOG Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	NOG, Monoclonal Antibody
Full Product Name	NOG (noggin, SYM1, SYNS1) (PE)
Product Gene Name	anti-NOG antibody
Product Synonym Names	noggin; SYM1; SYNS1
Clonality	Monoclonal
Isotype	IgG2b,k
Clone Number	2C10
Host	Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with R-Phycoerythrin (PE).
Purity/Purification	Purified
Specificity	Recognizes NOG.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amo use. Further dilutions can be made in assay buffer. Caution: PE conjugates are sensitive to light. For maximum recovery of product, centrifuge the origi cap.
Molecular Weight	23.8kDa (211aa) 28-40kDa (SDS-PAGE under reducing conditions)
OMIM	184460
3D Structure	ModBase 3D Structure for Q13253
Immunogen	NOG (NP_005441, 27aa-145aa) partial recombinant protein with GST tag. MW of the GST tag alone is 26kD.
Immunogen Sequence	GQHYLHIRPAPSDNLPLVDLIEHPDPIFDPKEKDLNETLLRSLLGGHYDPGFMATSPPEDRPGGGGGAAGGAEDLAELDQLLRQRPSGAMPSEIKGLEFS
Conjugate	PE
Product Categories/Family for anti-NOG antibody	Antibodies; Disease Markers
Applications Tested/Suitable for anti-NOG antibody	ELISA (EIA), Western Blot (WB)
Application Notes for anti-NOG antibody	Applications are based on unconjugated antibody.

Related Product Information for anti-NOG antibody	The secreted polypeptide, encoded by this gene, binds and inactivates members of the transforming growth factor-beta (TGF-beta) superfamily signalin morphogenetic protein-4 (BMP4). By diffusing through extracellular matrices more efficiently than members of the TGF-beta superfamily, this protein m creating morphogenic gradients. The protein appears to have pleiotropic effect, both early in development as well as in later stages. It was originally isc on its ability to restore normal dorsal-ventral body axis in embryos that had been artificially ventralized by UV treatment. The results of the mouse knocl that it is involved in numerous developmental processes, such as neural tube fusion and joint formation. Recently, several dominant human NOG muta with proximal symphalangism (SYM1) and multiple synostoses syndrome (SYNS1) were identified; both SYM1 and SYNS1 have multiple joint fusion as map to the same region (17q22) as this gene. All of these mutations altered evolutionarily conserved amino acid residues. The amino acid sequence of homologous to that of Xenopus, rat and mouse. [provided by RefSeq]
Other Notes	Small volumes of anti-NOG antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessa on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may ap
Searchable Terms for NOG purchase	MBS6185424 is an antibody targeting NOG. Also known as NOG (noggin, SYM1, SYNS1) (PE). Host: Mouse.



Western Blot (WB) of anti-NOG antibody
Western Blot analysis of NOG expression in transfected 293T cell line by NOG monoclonal antibody (M11), clone 2C10.Lane 1: NOG transfected lysate (25.8 KDa).Lane 2: Non-transfected lysate.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for NOG. It may not necessarily be applicable to this product.

NCBI GI #	4885523
NCBI GeneID	9241
NCBI Accession #	NP_005441
UniProt Primary Accession #	Q13253
UniProt Related Accession #	Q13253
GenBank Nucleotide #	NM_005450.4
NCBI Official Full Name	noggin
NCBI Official Synonym Full Names	noggin
NCBI Official Symbol	NOG
NCBI Official Synonym Symbols	SYM1; SYNS1; SYNS1A
UniProt Protein Name	Noggin
Protein Family	Noggin
UniProt Gene Name	NOG
UniProt Entry Name	NOGG_HUMAN

NCBI Protein Information	noggin
UniProt Comments for NOG	NOG: Essential for cartilage morphogenesis and joint formation. Inhibitor of bone morphogenetic proteins (BMP) signaling which is required for growth and patterning of the neural tube and somite. Defects in NOG are a cause of symphalangism proximal syndrome (SYM1). SYM1 is characterized by the hereditary absence of the proximal interphalangeal (PIP) joints (Cushing symphalangism). Severity of PIP joint involvement diminishes towards the radial side. Distal interphalangeal joints are less frequently involved and metacarpophalangeal joints are rarely affected whereas carpal bone malformation and fusion are common. In the lower extremities, tarsal bone coalition is common. Conducive hearing loss is seen and is due to fusion of the stapes to the petrous part of the temporal bone. Defects in NOG are the cause of multiple synostoses syndrome type 1 (SYNS1); also known as synostoses, multiple, with brachydactyly/symphalangism-brachydactyly syndrome. SYNS1 is characterized by tubular-shaped (hemicylindrical) nose with lack of alar flare, otosclerotic deafness, and multiple progressive joint fusions commencing in the hand. The joint fusions are progressive, commencing in the fifth proximal interphalangeal joint in early childhood (or at birth in some individuals) and progressing in an ulnar-to-radial and proximal- to-distal direction. With increasing age, ankylosis of other joints, including the cervical vertebrae, hips, and humeroradial joints, develop. Defects in NOG are the cause of tarsal-carpal coalition syndrome (TCC). TCC is an autosomal dominant disorder characterized by fusion of the carpals, tarsals and phalanges, short first metacarpals causing brachydactyly, and humeroradial fusion. TCC is allelic to SYM1, and different mutations in NOG can result in either TCC or SYM1 in different families. Defects in NOG are a cause of stapes ankylosis with broad thumb and toes (SABTS); also known as Teunissen- Cremers syndrome. SABTS is a congenital autosomal dominant disorder that includes hyperopia, a hemicylindrical nose, broad thumbs, great toes, and other minor skeletal anomalies but lacked carpal and tarsal fusion and symphalangism. Defects in NOG are the cause of brachydactyly type B2 (BDB2). BDB2 is a subtype of brachydactyly characterized by hypoplasia/aplasia of distal phalanges in combination with distal symphalangism, fusion of carpal/tarsal bones, and partial cutaneous syndactyly. Belongs to the noggin family. Protein type: Secreted, signal peptide; Secreted Chromosomal Location of Human Ortholog: 17q22 Cellular Component: extracellular space; extracellular region Molecular Function: protein binding; protein homodimerization activity; cytokine binding Biological Process: limb development; wound healing; somatic stem cell maintenance; embryonic skeletal development; motor axon guidance; negative regulation of transcription from RNA polymerase II promoter; middle ear morphogenesis; negative regulation of BMP signaling pathway; BMP signaling pathway; notochord morphogenesis; cell differentiation in hindbrain; negative regulation of cardiac muscle cell proliferation; axial mesoderm development; negative regulation of osteoblast differentiation; skeletal development; negative regulation of cell migration; nervous system development; in utero embryonic development; neural plate morphogenesis; osteoblast differentiation; dorsal/ventral pattern formation; mesoderm formation; endoderm formation; pituitary gland development; spinal cord development; cartilage development; negative regulation of astrocyte differentiation; neural tube closure; epithelial to mesenchymal transition; positive regulation of transcription from RNA polymerase II promoter; embryonic digit morphogenesis; positive regulation of epithelial cell proliferation Disease: Stapes Ankylosis With Broad Thumb And Toes; Symphalangism, Proximal, 1a; Brachydactyly, Type B2; Multiple Synostoses Syndrome 1; Tarsal-carpal Coalition Syndrome
Research Articles on NOG	**1.** we describe a Danish family suffering from SYNS1 due to a novel NOG gene mutation (C230Y). We provide detailed clinical description of the family members presenting rare phenotype of the shoulders shared by affected individuals but no hearing loss, further adding to the phenotypic variability of the syndrome.
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