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Product datasheet

Recombinant mouse Noggin protein (Animal Free) ab217437

Description

Product name	Recombinant mouse Noggin protein (Animal Free)
Biological activity	Determined by its ability to inhibit 5.0 ng/mL of BMP-4 induced alkaline phosphatase production by ATDC5 chondrogenic cells. The expected ED_{50} for this effect is 1.0-2.0 ng/mL of Noggin.
Purity	> 98 % SDS-PAGE. > 98 % HPLC.
Expression system	Escherichia coli
Accession	P97466
Protein length	Full length protein
Animal free	Yes
Nature	Recombinant
Species	Mouse
Sequence	MQHYLHIRPA PSDNLPLVDL IEHPDPIFDP KEKDLNETLL RSLLGGHYDP GFMATSPPED RPGGGGGPAG GAEDLAELDQ LLRQRPSGAM PSEIKGLEFS EGLAQGKKQR LSKKLRRKLQ MWLWSQTFCP VLYAWNDLGS RFWPRYVKVG SCFSKRSCSV PEGMVCKPSK SVHLTVLRWR CQRRGGQRCG WIPIQYPIIS ECKCSC
Predicted molecular weight	46 kDa
Amino acids	28 to 232
Additional sequence information	This product is for the mature full length protein. The signal peptide is not included. Disulfide-linked homodimer consisting of two 206 amino acid polypeptide chains.

Specifications

Our Abpromise guarantee covers the use of **ab217437** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	HPLC Functional Studies SDS-PAGE

Form	Lyophilised

Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	For lot specific reconstitution information please contact our Scientific Support Team.

General Info

Function	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.
Involvement in disease	Defects in NOG are a cause of symphalangism proximal syndrome (SYM1) [MIM:185800]. 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) [MIM:186500]; 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) [MIM:186570]. 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) [MIM:184460]; 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) [MIM:611377]. 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.
Sequence similarities	Belongs to the noggin family.
Cellular localization	Secreted.

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