

Product datasheet for **RC205020**

Noggin (NOG) (NM_005450) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Noggin (NOG) (NM_005450) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: Noggin
Synonyms: SYM1; SYNS1; SYNS1A
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC205020 representing NM_005450.
Blue=ORF Red=Cloning site Green=Tag(s)

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GCTCGTTTGTGAACCGTCAGAATTTGTAAATACGACTACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGGAGCGCTGCCCCAGCCTAGGGGTACCCCTCTACGCCCTGGTGGTGGTCTGGGGCTGCGGGCGACA
CCGGCCGGCGCCAGCACTATCTCCACATCCGCCCGGCACACAGCGACAACCTGCCCTGGTGGACCTC
ATCGAACACCCAGACCCTATCTTTGACCCCAAGGAAAAGGATCTGAACGAGACGCTGCTGCGCTCGCTG
CTCGGGGGCCACTACGACCCAGGCTTCATGGCCACCTCGCCCCGAGGACCGCCCGGGGGGGGGGG
GGTGCAGCTGGGGCGCGGAGGACCTGGCGGAGCTGGACCAGCTGCTGCGGCAGCGCCGCTCGGGGGCC
ATGCCGAGCGAGATCAAAGGGCTAGAGTTCTCCGAGGGCTTGGCCAGGGCAAGAAGCAGCGCCTAAGC
AAGAAGCTGCGGAGGAAGTTACAGATGTGGCTGTGGTTCGACAGACATTCTGCCCGTGTGTACGCGTGG
AACGACCTGGGCAGCCGCTTTTGGCCGCGCTACGTGAAGGTGGGCAGCTGCTTACAGTAAGCGCTCGTGC
TCCGTGCCCGAGGGCATGGTGTGCAAGCCGTCCAAGTCCGTGCACCTCACGGTGTGCGGTGGCGTGT
CAGCGGCGCGGGGGCCAGCGCTGCGGCTGGATTCCCATCCAGTACCCCATCATTTCCGAGTGCAAGTGC
TCGTGC
AGCGGACCGACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGAT
ATCCTGGATTACAAGGATGACGACGATAAGGTTTAA
```

Protein Sequence: >Peptide sequence encoded by RC205020
Blue=ORF Red=Cloning site Green=Tag(s)

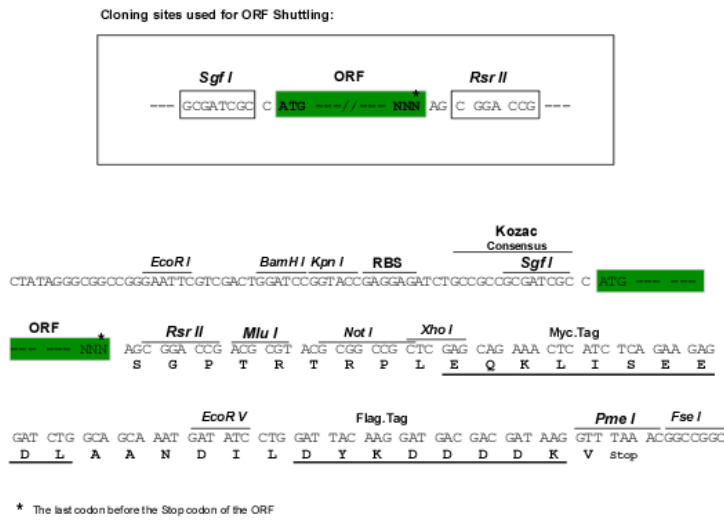
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MERCPSLGVTL YALVVVLGLRATPAGGQHYLHIRPAHSDNLPLVDLIEHPDPI FDPKEKDLNETLLRSL
LGGHYDPGF MATSPPEDRPGGGGAAGGAEDLAELDQLLRQPSGAMPSEIKGLEFSEGLAQGKKQRLS
KKLRRKLQMWLWSQTFCPVLYAWNDLGSRFWPRYVYKVGSCFSKRSCSVPEGMVCKPSKSVHLTVLRWRC
QRRGGQRCGWIP IQYPII SECKCSC
SGPTRTRPLEQKLI SEEDLAANDILDYKDDDDK
```



Chromatograms: https://cdn.origene.com/chromatograms/mk6189_e03.zip

Restriction Sites: SgfI-RsrII

Cloning Scheme:



ACCN: NM_005450

ORF Size: 696 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in *E. coli* are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq Size: 1892 bp

RefSeq ORF: 699 bp

Locus ID: 9241

UniProt ID: [Q13253](#)

Cytogenetics: 17q22

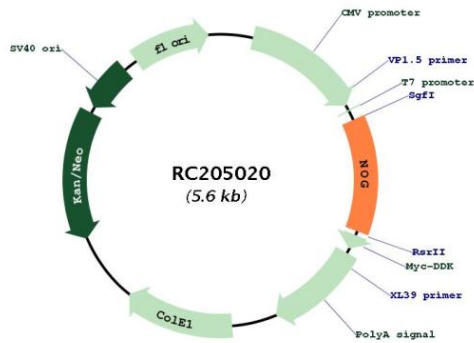
Protein Families: Druggable Genome, Secreted Protein

Protein Pathways: TGF-beta signaling pathway

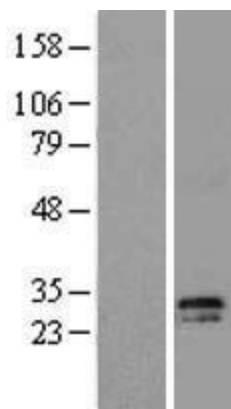
MW: 25.8 kDa

Gene Summary: The secreted polypeptide, encoded by this gene, binds and inactivates members of the transforming growth factor-beta (TGF-beta) superfamily signaling proteins, such as bone morphogenetic protein-4 (BMP4). By diffusing through extracellular matrices more efficiently than members of the TGF-beta superfamily, this protein may have a principal role in creating morphogenic gradients. The protein appears to have pleiotropic effect, both early in development as well as in later stages. It was originally isolated from *Xenopus* based 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 knockout of the ortholog suggest that it is involved in numerous developmental processes, such as neural tube fusion and joint formation. Recently, several dominant human NOG mutations in unrelated families with proximal symphalangism (SYM1) and multiple synostoses syndrome (SYNS1) were identified; both SYM1 and SYNS1 have multiple joint fusion as their principal feature, and map to the same region (17q22) as this gene. All of these mutations altered evolutionarily conserved amino acid residues. The amino acid sequence of this human gene is highly homologous to that of *Xenopus*, rat and mouse. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RC205020



Western blot validation of overexpression lysate (Cat# [LY401672]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205020 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).