

Product datasheet for **MR210466**

Nbn (NM_013752) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Nbn (NM_013752) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Nbn
Synonyms:	Nbs1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>MR210466 representing NM_013752
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTGGAAGCTGCTCCCGCCGCGGTGCGGCTCCAGGAGAACCATACCGACTTTTGCCGCGCTGGAGT
 ACGTTGTTGGGAGGAAAACTGTGGCATTCTGATTGAAAATGATCAGTCAATCAGTCGAAACCATGCTGT
 CTTAACAGTAAACTTCCCTGTAACCCAGTTTGAGTCAAACAGATGAAATTCCTACATTAACAATAAAAGAT
 AATTCTAAGTATGGAACCTTTGTTAATGAAGAAAAATGCAGACTGGTCTTTCCTGCACGTTGAAGACAG
 GAGATAGAGTTACCTTTGGGGTGTGTTGAAAGTAAATTCAGAGTAGAATACGAGCCCTTGTTGTTTGTTT
 TTCTTGTTTAGATGTCTCTGGGAAAAGTGTGTTAAATCAAGCTATTTTACAGCTTGGAGGACTTACCGCA
 AACACTGGACGGAAGAATGTACCCACCTGTCTGTCGCGCAGTAAAGTCAACATTAACCTATATGTG
 CACTCATTGTGGACGTCCAATTATAAAACCAGAATACTTTTCTGAATTTCTCAAAGCAGTTGAATCTAA
 GAAACAGCCTCCAGATATTGAAAGTTTTTACCCACCCATTGATGAACCAGCTATTGGAAGTAAAAGTGT
 GATCTGTGAGGGCGACATGAAAGAAAACAGATCTTCAAAGGAAAAACATTTGTGTTTTTAAATGCCAAGC
 AGCACAAGAAAAGCTCAGCTCGGCAGTTGCTTTCGGAGGTGAGAAGCCAGGCTGATGGCAGAAAGACGCA
 AGAGGAACAGAGCTTCTTTTTCAGCTCCCGGAACCTGCGTTGTTGATGTAGGAATAACGAATACACAGCTC
 ATAATTTACACTCCAGAAAAAATGGATTCAATTTGATAATGGATACACTTCAAAGGATGGTCTCAGAC
 CTATTCCTGAAGCGGAGATTGGATTGGCTGTTATTTTTATGACTACAGAGAATTACTGTAATCCGCAGGG
 CCAGCCTTGTACAGAATTAAGACAACGACTCCAGGACCAAGCCTTTCCCAAGTCTGTACAGCAATGGA
 AAAATAATCCCAAGTGTCCAGTGAATATGACCACATACGTAGCTGACACAGAATCAGAGCCAGCAGATA
 CATGTATGCCTTTGAGTGAAGACCAGAAGAAGTAAAGATCCCTGGACTGGAACAAAGCTTAGGAACT
 TTCACAAGAAACATTCAATATAAAGGAGGCCCTAAACCAAGCTCAAAGCTAACACGTAGCATCAGAT
 ACGCTGGTTAGAGGAAAGACCCCGAGCTATCAGCTTTCTCCAATGAAATTTCTGTTGCAATAAAAAATA
 AGGATTGGACTTCTCAGCAGCAGCAGAAGTCCATCAAAAAGTACTTCCAGCCATGCACCAGAAAAAGGGA
 AAGGGATGAAGACAACCCAGAGCTGTCTCGTGCAAAATCATCCAGGATGGAGCTGTCTGTTCTCTTTTA
 GAACAAACACAACCTGCCGGACCCTCACTGTGGAAAAGCAAGGAGCATCAGTCTCAGAATGCGACCCTGG
 ACAGGGAAAGCCGACACCTCATCTGTGGTGGGATGGACATAGAAGTCAACAGGAAGAGTCTGACAGGAA
 ACCACTTCCACAGAACTCTTAGACCCAGAAAAAGAAAAGATGTTGATTTAGCTACAGAAGAGGAAAGTC
 TTGGAAGAGTTACTGAGGAGTACAAAGCCAGAGTTGGCAGTTCAAGTGAAGGTTGAAAAGCAGGAGGCAG
 ATGACACCATCAGAAAAAGCCAAGGATGGACGCAGAGAGGAATCGGCCCTGAATGGTGGATCAGAGCC
 GGAAAGCAACAGCGCTCTTCAAGAAGATGAAAGAGAAAAGAAAAGATGAACTTCCAGACAGAGTCGTGGTCA
 ACAAAAACATGAAATAGCTAATAGTGATGGTCTTCAGGACAGCAGTGAAGGAGTGGCCACGGAAACTGCTGC
 TGACTGAAATTTAGGTCATTGGTTGTGAGTAAACCAACTCCACCTCCAGAAATCTATGTGTAATGAATG
 TGGTCCACTGAAGAATTTCAAGAAATTCAGAAGGCGACATTTCTGGGGCAGGAAAGCTTCCACACATC
 ATCGGAGGATCAGACTTAGTAGGCCACCATGCTCGAAAGAATACCGAGTTAGAAGAATGGTTGAAACAGG
 AAATGGAGGTACAGAAACAACAAGCAAAGGAGGAATCTCTGCTGATGATCTGTTTAGATATAATCCTAA
 TGTAAAAAGAAGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR210466 representing NM_013752
 Red=Cloning site Green=Tags(s)

MWKLPAAGAAPGEPYRLLAGVEYVVGKNGGIL IENDQISRNHAVL TVNFPVTSLSQTDEIPTLTIKD
 NSKYGTFVNEEKMQTGLSCTLKTGDRVTFGVFESKFRVEYEPLVVCSSCLDVSGKTVLNQAILQLGGLTA
 NNWTEECTHLVMSAVKVTIKTICALICGRPIIKPEYFSEFLKAVESKKQPPDIESFYPPIDEPAIGSKSV
 DLSGRHERKQIFKGTTFVFLNAKQHKLLSSAVAFGGGEARLMAEDDEEEQSFSSAPGTCVVDVGITNTQL
 IISHSQKKWIHLIMDTLQRNGLRPIPEAEIGLAVIFMTTENYCNPQGQPCTELKTTTPGPSLSQVLSANG
 KIIPSAPVNMTTYVADTESEPADTCMPLSERPEEVKIPGLEQSSRKL SQETFNIKEAPKPSKANNVASD
 TLVRGKTPSYQLSPMKFPVANKNDWTSQQQQNSIKNYFQPCTRKREDEDNPELSSCKSSRMELSCSL
 EQTPAGPSLWKSKEHQSNATLDREADTSSVGGMDIELNRKSPDRKPLPTETLRPRKRKDVLDLATEEEV
 LEELLRSTKPELAVQVKEKQEAADTIRKKPRMDAERNRPLNGGSEPESSALQEDEREKKDELQTESWS
 TKHEIANSGLQDSSEELPRKLLLTEFRSLVVSNNHSTSRNLVNECGPLKNFKKFKKATFPGAGKLPHI
 IGGSDLVGHHARKNTELEEWLQEMEVQKQQAKEESLADDLFRYNPNVKRR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mm9033_g09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_013752

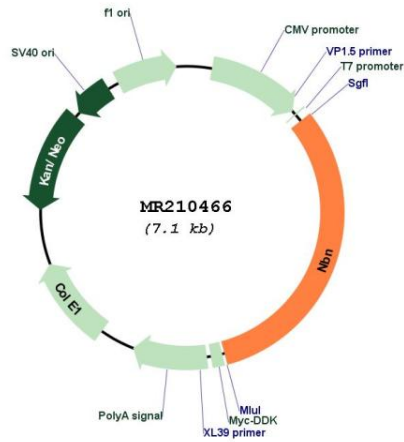
ORF Size: 2253 bp

OTI Disclaimer: 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:	<ol style="list-style-type: none">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.
RefSeq:	<u>NM_013752.3</u> , <u>NP_038780.3</u>
RefSeq Size:	2491 bp
RefSeq ORF:	2256 bp
Locus ID:	27354
UniProt ID:	<u>Q9R207</u>
Cytogenetics:	4 A2
MW:	84.2 kDa
Gene Summary:	<p>Component of the MRE11-RAD50-NBN (MRN complex) which plays a critical role in the cellular response to DNA damage and the maintenance of chromosome integrity. The complex is involved in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity, cell cycle checkpoint control and meiosis. The complex possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity, which are provided by MRE11. RAD50 may be required to bind DNA ends and hold them in close proximity. NBN modulate the DNA damage signal sensing by recruiting PI3/PI4-kinase family members ATM, ATR, and probably DNA-PKcs to the DNA damage sites and activating their functions. It can also recruit MRE11 and RAD50 to the proximity of DSBs by an interaction with the histone H2AX. NBN also functions in telomere length maintenance by generating the 3' overhang which serves as a primer for telomerase dependent telomere elongation. NBN is a major player in the control of intra-S-phase checkpoint and there is some evidence that NBN is involved in G1 and G2 checkpoints. The roles of NBS1/MRN encompass DNA damage sensor, signal transducer, and effector, which enable cells to maintain DNA integrity and genomic stability. Forms a complex with RBBP8 to link DNA double-strand break sensing to resection. Enhances AKT1 phosphorylation possibly by association with the mTORC2 complex (By similarity).[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for MR210466