

Product datasheet for **MG210466**

Nbn (NM_013752) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|--|
| Product Type: | Expression Plasmids |
| Product Name: | Nbn (NM_013752) Mouse Tagged ORF Clone |
| Tag: | TurboGFP |
| Symbol: | Nbn |
| Synonyms: | Nbs1 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-AC-GFP (PS100010) |
| E. coli Selection: | Ampicillin (100 ug/mL) |



[View online »](#)

ORF Nucleotide
Sequence:

>MG210466 representing NM_013752
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTGGAAGCTGCTCCCGCCGCGGTGCGGCTCCAGGAGAACCATACCGACTTTTGCCGCGCTGGAGT
 ACGTTGTTGGGAGGAAAACTGTGGCATTCTGATTGAAAATGATCAGTCAATCAGTCGAAACCATGCTGT
 CTTAACAGTAAACTTCCCTGTAACCCAGTTTGAGTCAAACAGATGAAATTCCTACATTAACAATAAAAGAT
 AATTCTAAGTATGGAACCTTTGTTAATGAAGAAAAATGCAGACTGGTCTTTCCTGCACGTTGAAGACAG
 GAGATAGAGTTACCTTTGGGGTGTGTTGAAAGTAAATTCAGAGTAGAATACGAGCCCTTGTTGTTTGTTT
 TTCTTGTTTAGATGTCTCTGGGAAAAGTGTGTTAAATCAAGCTATTTTACAGCTTGGAGGACTTACCGCA
 AACAACTGGACGGAAGAATGTACCCACCTTGTCTGTCGGCAGTTAAAGTCAACATTAACCTATATGTG
 CACTCATTGTGGACGTCCAATTATAAAACCAGAATACTTTTCTGAATTTCTCAAAGCAGTTGAATCTAA
 GAAACAGCCTCCAGATATTGAAAGTTTTTACCCACCCATTGATGAACCAGCTATTGGAAGTAAAAGTGT
 GATCTGTGAGGGCGACATGAAAGAAAACAGATCTTCAAAGGAAAAACATTTGTGTTTTTAAATGCCAAGC
 AGCACAAGAAAAGCTCAGCTCGGCAGTTGCTTTCGGAGGTGAGAAGCCAGGCTGATGGCAGAAAGACGCA
 AGAGGAACAGAGCTTCTTTTTCAGCTCCCGGAACCTGCGTTGTTGATGTAGGAATAACGAATACACAGCTC
 ATAATTTACACTCCAGAAAAAATGGATTCAATTTGATAATGGATACACTTCAAAGGATGGTCTCAGAC
 CTATTCCTGAAGCGGAGATTGGATTGGCTGTTATTTTTATGACTACAGAGAATTACTGTAATCCGCAAGG
 CCAGCCTTGTACAGAATTAAGACAACGACTCCAGGACCAAGCCTTTCCCAAGTCTGTGAGCAATGGA
 AAAATAATCCCAAGTGTCCAGTGAATATGACCACATACGTAGCTGACACAGAATCAGAGCCAGCAGATA
 CATGTATGCCTTTGAGTGAAGACCCAGAAGAAGTAAAGATCCCTGGACTGGAACAAAGCTTAGGAACT
 TTCACAAGAAAACATTCAATATAAAGGAGGCCCTAAACCAAGCTCAAAGCTAACACGTAGCATCAGAT
 ACGCTGGTTAGAGGAAAGACCCCGAGCTATCAGCTTCTCCAATGAAATTTCTGTTGCAATAAAAAATA
 AGGATTGGACTTCTCAGCAGCAGCAGAAGTCCATCAAAAACTACTTCCAGCCATGCACCAGAAAAAGGGA
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 GAACAAACACAACCTGCCGACCCCTCACTGTGAAAAGCAAGGAGCATCAGTCTCAGAATGCGACCCTGG
 ACAGGGAAAGCCGACACCTCATCTGTGGTGGGATGGACATAGAAGTCAACAGGAAGAGTCTGACAGGAA
 ACCACTTCCACAGAAAAGTCTTAGACCCAGAAAAAGAAAAGATGTTGATTTAGCTACAGAAGAGGAAAGT
 TTGGAAGAGTTACTGAGGAGTACAAAGCCAGAGTTGGCAGTTCAAGTGAAGGTTGAAAAGCAGGAGGCAG
 ATGACACCATCAGAAAAAGCCAAGGATGGACGCAGAGAGGAATCGGCCCTGAATGGTGGATCAGAGCC
 GGAAAGCAACAGCGCTCTTCAAGAAGATGAAAGAGAAAAGAAAAGATGAACTTCAGACAGAGTCTGGTCA
 ACAAAACATGAAATAGCTAATAGTATGATGGTCTTCAGGACAGCAGTGGAGGCTGCCACGGAAAAGTCTGC
 TGACTGAAATTTAGGTCATTGGTTGTGAGTAAACCAACTCCACCTCCAGAAATCTATGTGTAATGAATG
 TGGTCCACTGAAGAATTTCAAGAAATTCAGAAGGCGACATTTCTGGGGCAGGAAAGCTTCCACACATC
 ATCGGAGGATCAGACTTAGTAGGCCACCATGCTCGAAAGAATACCGAGTTAGAAGAATGGTTGAAACAGG
 AAATGGAGGTACAGAAACAACAAGCAAAGGAGGAATCTCTGCTGATGATCTGTTTAGATATAATCCTAA
 TGTA AAAAGAAGA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG210466 representing NM_013752
 Red=Cloning site Green=Tags(s)

MWKLPAAGAAPGEPYRLLAGVEYVVGKNGGIL IENDQSI SRNHA VLTVNFVPTSL SQTDEIPTLTIKDN
 NSKYGTFVNEEKMQTGLSCTLKTGDRVTFGVFESKFRVEYEPLVVCSSCLDVSGKTVLNQAILQLGGLTAN
 NNWTEECTHLVMSAVKVTIKTICALICGRPIIKPEYFSEFLKAVESKKQPPDIESFYPPIDEPAIGSKSV
 DL SGRHERKQIFKGTFFVFLNAKQHKLLS AVAFGGGEARLMAEDDEEQSFFSAPGTCVVDVGITNTQL
 IISHSQKWIHLIMDTLQRNGLRPIPEAEIGLAVIFMTTENYCNPQGQPCTELKTTTPGPSLSQVLSANG
 KIIPSAPVNMTTYVADTESEPADTCMPLSERPEEVKIPGLEQSSRKL SQETFNIKEAPKPSKANNVASD
 TLVRGKTSPSYQLSPMKFPVANKNDWTSQQQQNSIKNYFQPCTRKREDEDNPELSSCKSSRMELSCSLLE
 EQTPAGPSLWKSKEHQSNATLDREADTSSVGGMDIELNRKSPDRKPLPTETLRPRKRKDVLDLATEEEV
 LEELLRSTKPELAVQVKEKQEAADTIRKKPRMDAERNRPLNGGSEPE SNSALQEDEREKKDELQTESWS
 TKHEIANS DGLQDSSEELPRKLLL TEF RSLVVS NHNSTSRNL CVNECGPLKNFKFKKATFPGAGKLPHI
 IGGSDLVGH HARKNTELEEWLQEMEVQKQQAKEESLADDLFRYNPNVKRR

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



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:

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: [NM_013752.3](#), [NP_038780.3](#)

RefSeq Size: 2491 bp

RefSeq ORF: 2256 bp

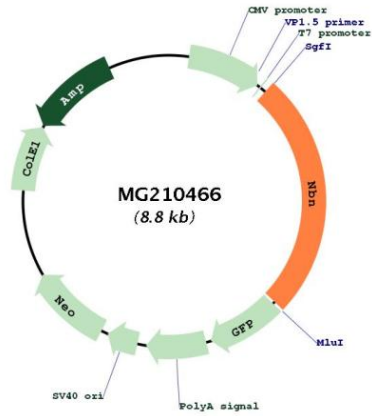
Locus ID: 27354

UniProt ID: [Q9R207](#)

Cytogenetics: 4 A2

Gene Summary: 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]

Product images:



Circular map for MG210466