

Product datasheet for MR217430

Nalcn (NM_177393) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Nalcn (NM_177393) Mouse Tagged ORF Clone
Tag: Myc-DDK
Symbol: Nalcn
Synonyms: A530023G15Rik; AI849508; Vgcnl1
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >MR217430 representing NM_177393
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGCTCAAAGAAAGCAGAGTTCAGGGTGAAGCCAGCCAGTTACTGACTTTGGTCTGATGAATCTC
 TGTCAGACAATGCTGACATACTCTGGATTAATAAGCCATGGGTGCACTCTCTGCTGCGCATCTGTGCCAT
 CATCAGCGTCATCTCAGTGTGCATGAACACACCTATGACCTTTGAGCACTATCCTCCTCTCAGTATGTG
 ACCTTCACCTTGGACACTTTATTGATGTTCTCTACACTGCAGAAATGATAGCAAAGATGCACATACGGG
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 TGACAGCAGATACTGAAAAACCCAAAGGAAGATTGGGCAATGGCGTCTGCCCTCAGCCCCAAACCAATA
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 TGAACCCATGCCAGACACAGCTTCTGTGGCTCTGAAGTTAAAAAGTGGTGGACCAGACAGCTGACCGT

GGAGAGTGACGAGAGTGGAGATGACCTCTGGATATT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR217430 representing NM_177393
Red=Cloning site Green=Tags(s)

MLKRKQSSRVEAQPVTDFGPDESLSDNADILWINKPWVHSLLRICAIISVISVCMNTPMTFEHYPLQYV
TFTLDLTLMLFLYAEMIAKMHIRGIVKGDSSYVKDRWCVFDGFMVFLWVSLVLQVFEIADIVDQMSPWG
MLRIPRPLIMIRAFRIYFRFELPRTRITNILKRSGEQIWSVSIFLLFLLLYGILGVQMFGTFTYHCVVN
DTKPGNVTWNSLAIPDTHCSPELEEGYQCPPGFKCMDLEDLGLSRQELGYSGFNEIGTSIFTVYEAASSQE
GWVFLMYRAIDSFPRWRSYFYFITLIFFLAWLVKNVFIAVIIETFAEIRVQFQQMMWGTRSTTSTATTQM
FHEDAAGGWQLVAVDVKNPQGRAPACLQKMMRSSFVHMFILSMVTVDVIVAASNYKGFNRRQYDEFYL
AEVAFTVLFDFLEALLKIWCLGFTGYISSSLHKFELLLVIGTTLHVYPDLYHSQFTYFQVLRVRLIKISP
ALEDFVYKIFGPGKLGSLVVFASLLIVMSAISLQMFVFEELDRFTTFPRAFMSMFQILTQEGWVDVM
DQTLNAVGHMWAFLVAIYFIFYLHFLATLILLSLFVAVILDNLELDEDLKKLQKQSEANADTKEKPLR
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SNSQRISRGSLET L TQDHSNTVRYRNAQREDSEIKMIQEKEQAEMKRKVQEEELRENHPYFDKPLFIV
GREHRFRNF CRVVVRARFNASKTDPVTGAVKNTKYHQLYDLLGLVTYLDWVMITVTICSCI SMMFESPFR
RVMHAPTLQIAEYVVFVIFMSIELNLKIMADGLFFPTAVIRDFGGVMDIFIYLVSLIFLCWMPQNVPAES
GAQLLMVLRCLRPLRIFKLVPMRQVRELFSGFKEIFLVSI LLLTLMVLFASFVQVLFAGKLAKCNDPN
IIRREDNCGIFRINVSVSKNLNLKLRPGEKPGFVWPRVWANPRNFNFDNVGNAMLALFEVL SLKGWVEV
RDVIIHRVGP IHIYIHFVFLGCMIGLTFVGVVIANFNENKGTALLTVDQRRWEDLKSRLKIAQPLHL
PPRPDNDGFRAKMYDITQHPFFKRTIALLVLAQSVLLSVKWDVDDPVTVPLATMSVVFTFIFVLEVTMKI
IAMSPAGFWQSRNRDYLVTSLGVVVVLFHALLNAYTYMMGACVIVFRFFSICGKHVTLKMLLTVVV
SMYKSF IIVGMFLLL CYAFAGVVLFGTVKYGENINRHANFSSAGKAITVLFRIVTGEDWNKIMHDCMV
QPPFCTPDEFTYWATDCGNYAGALMYFCSFYVIAIYIMLNLVAIIVENFSLFYSTEEDQLLSYNDLRHF
QIIWNMVDKREGVIPTFRVKFLLRLLRGRLEVDLKD KLLFKHMCYEMERLHNGGDVTFHDVLSMLSYR
SVDIRKSLQLEELLAREQLEYTIEEEVAKQTI RMWLKKCLKRIRAKQQQSCSIIHSLRESQEQERSRLFL
NPPSIETTQPSEDSNANSQDHSMQPETSSQQQLL SPTLSDRGGSRQDAADTGKQPQRKIGQWRLPSAPKPI
SHSVSSVNLRFGRRTMKTVVCKMNPMPDTASCSEVKKWWRQLTVESDESGD LLDI

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

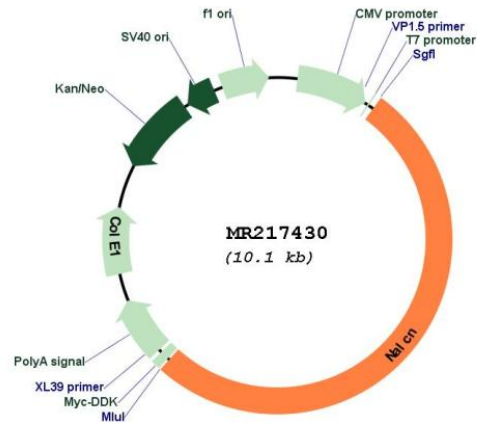
Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_177393

ORF Size: 5217 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_177393.4](#), [NP_796367.3](#)

RefSeq Size: 7115 bp

RefSeq ORF: 5220 bp

Locus ID: 338370

UniProt ID: [Q8BXR5](#)

Cytogenetics: 14 E5

MW: 201 kDa

Gene Summary: Voltage-independent, cation-nonspecific channel which is permeable to sodium, potassium and calcium ions (PubMed:17448995). Regulates the resting membrane potential and controls neuronal excitability. Neuropeptides such as neurotensin and substance P (SP) stimulate the firing of action potentials by activating NALCN through a SRC family kinases-dependent pathway (PubMed:19092807). In addition to its baseline activity, NALCN activity is enhanced/modulated by several GPCRs (PubMed:19092807, PubMed:19575010, PubMed:21040849). Required for normal respiratory rhythm and neonatal survival. Involved in systemic osmoregulation by controlling the serum sodium concentration (PubMed:21177381). NALCN is partly responsible for the substance P-induced depolarization and regulation of the intestinal pace-making activity in the interstitial cells of Cajal (PubMed:22508057). Plays a critical role in both maintenance of spontaneous firing of substantia nigra pars reticulata (SNr) neurons and physiological modulation of SNr neuron excitability (PubMed:27177420).[UniProtKB/Swiss-Prot Function]