

Product datasheet for **MG221965**

Lrrc8a (NM_177725) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Lrrc8a (NM_177725) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Lrrc8a
Synonyms:	Lrrc8; mKIAA1437
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide
Sequence:

>MG221965 representing NM_177725
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGATTCCGGTGACAGAGCTCCGCTACTTTGCGGACACACAGCCAGCATACCGGATCCTGAAGCCTTGTT
GGGATGTGTTCACTGATTACATCTCCATCGTCATGCTGATTGCTGTCTTTGGAGGGACGCTGCAAGT
CACCCAGGACAAGATGATCTGCCTACCTTGTAAAGTGGGTACCAAAGACTCCTGCAACGACTCCTCCGG
GGCTGGGACGCTCCAGCCAGAGCCACTTACCCAACTCCACAGTCTGCCGACGCTGACACAGGCC
CCACAGGTATCAAGTATGACCTAGATCGACACCAGTACAACACTACGTGGATGCGGTGTGCTACGAGAACCG
CCTGCATTGGTTTCCAAGTACTTCCCCTACCTCGTGCTTCTGCACACCCTCATCTTCTGGCCTGTAGC
AACTTCTGGTTCAAGTTCCACGCACCAGTTCGAAGCTGGAACACTTTGTGTCTATCCTGCTCAAGTGTCT
TCGACTCACCGTGGACCACAGGCCCTGTCCGAGACAGTGGTGGAGGAGAGTGACCCCAAGCCAGCCTT
CAGCAAGATGAACGGTCCATGGACAAGAAGTCATCTACAGTCAGCGAGGATGTGGAGGCCACCGTGCC
ATGCTGCAGCGGACCAAGTCACGGATTGAGCAGGGCATCGTGGACCGATCGGAGACGGGCGTACTGGACA
AGAAGGAAGGGGAGCAGGCGAAGGCCCTGTTTGAAGGTTGAAGAAGTCCGGACTCACGTGGAGGAGGG
GGACATTTGTGTACCGCTGTACATGCGGCAGACCATCATCAAGGTGATCAAGTTCGCCCTCATCATCTGC
TACACCGTCTACTATGTGCACAACATCAAGTTCGACGTGGACTGCACCGTGGACATCGAGAGCCTGACAG
GCTACCGCACCTACCGCTGTGCCACCCCTGGCCACGCTCTTCAAGATCTTGGCATCCTTCTACATCAG
CTTGGTCATCTTCTATGGCCTCATCTGCATGTACACACTGTGGTGGATGCTGCGGCGCTCCCTCAAGAAG
TACTCGTTCGAGTCGATCCGAGAGGAGAGCAGCTACAGTGACATCCCGACGTCGAAGAAGCACTTTGCTT
TCATGTTGCACCTCATCGACCAGTATGACCTCTCTACTCAAAGCGCTTCCGCGTCTTCTGTCTGAGGT
GAGTGAAAACAAGCTGCGCCAGCTGAACCTCAACAACGAGTGGACGCTGGACAAGCTGCGCCAGCGCCTC
ACCAAGAACGCCAGGACAAGCTGGAGCTGCACCTGTTTATGCTCAGCGGCATCCCGGACTGTGTTTTG
ACCTGGTTGAGCTCGAGGCTCCTGAAGCTGGAGCTGATACCGACGTGACCATCCCGCCAGCATCGCCCA
GCTCACAGGCCTCAAGGAGCTGTGGCTGTACCACAGGCAGCCAAGATCGAGGCTCCTGCCCTGGCCTTC
CTGCGGGAGAACCTGCGGGCCCTGCACATCAAGTTCACGGACATCAAGGAGATCCCGCTGTGGATCTACA
GCCTGAAGACGCTGGAGGAGCTGCACCTGACGGGCAACCTGAGTGCAGAGAACAACCGCTACATCGTCAT
TGACGGGCTGCGGAGCTCAAACGCCTCAAGGTGCTGCGACTCAAGAGCAACCTGAGCAAGCTGCCGCAG
GTGGTCACGGATGTGGGCTGCACCTGCAGAAGCTGTCCATCAACAATGAGGGCACCAAGCTCATTGTCC
TCAACAGCCTCAAGAAGATGGTTAACCTGACGGAGCTAGAGCTGATCCGCTGTGACTGGAGCGCATCCC
TACTCCATCTTTAGCCTCCACAACCTGCAGGAGATTGACCTGAAGGACAACAACCTCAAGACCATTGAG
GAGATCATCAGCTTCCAGCACCTGCACCGCCTCACCTGCCTTAAGCTGTGGTACAACCACATTGCCTACA
TCCCATCCAGATCGGCAACCTCACCAACCTCGAGCGCCTCTACCTGAACCGCAACAAAATCGAGAAAAT
CCCCACCAGCTCTTCTACTGCGCAAGCTGCGCTACCTGGACCTCAGCCACAACAACCTGACCTTCCCTC
CCCGCCGACATTTGGCCTCCTGCAGAACCTCCAGAACCTGGCCGTCACAGCCAATAGGATTGAAGCGCTCC
CCCCAGAGCTCTTCCAGTGTGGAAGCTACGGGCTCTACACCTGGGCAACAATGTACTGCAGTCGCTGCC
CTCGAGAGTGGGCGAGCTGACCAACCTGACGCAGATCGAGCTTCCGGGCAACCGGCTGGAATGCCTGCC
GTGGAGCTGGGAGAGTGCCCTACTCAAGCGCAGCGCCCTGGTGGTGAAGAGGACTTGTTCAGCACAC
TGCCACCTGAGGTGAAGGAGCGGCTCTGGAGAGCTGACAAGGAGCAGGCC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >MG221965 representing NM_177725
 Red=Cloning site Green=Tags(s)

MIPVTELRYFADTQPAYRILKPWWVFTDYISIVMLIAVFGGTLQVTQDKMICLPCKWVTKDCNDSFR
 GWAASSPEPTYPNSTVLPTDPTGPTGIKYDLDRHQYNYVDAVCYENRLHWFACYFPYLVLHLLHTLIFLACS
 NFWFKFPRTSSKLEHFVSILLKCFDSPWTRALSETVVEESDPKPAFSKMNGSMDKKSSTVSEDVEATVP
 MLQRTKSRIEQIVDRSETGVLDKKEGEQAKALFEKVKKFRTHVEEGDIVYRLYMRQTIKVIKIFALIIC
 YTVYYVHNIKFDVDCVTDIESLTGYRTRYCAHPLATLFKILASFYISLVIFYGLICMYTLWMLRRSLKK
 YSFESIREESSYSDIPDVKNDFAFMLHLIDQYDPLYSKRFAVFLSEVSENKLRQLNLNNEWTLDKLRQRL
 TKNAQDKLELHFLMMSGIPDVFDFLVELEVLELIPDVTIPPSIAQLTGLKELWLYHTAAKIEAPALAF
 LRENLRALHIKFTDIKEIPLWIYSLKTLLELHLTGNSAENNRIVIDGLRELKRLKVLRLKSNLSKLPQ
 VVTDVGVHLQKLSINNEGTKLIVLNSLKKMVNLTELELIRCDLERIPHSIFSLHNLQEIDLKDNNLKTIE
 EIISFQHLHRLTCLKLWYNHIAYIPIQIGNLTNLERLYLNRNKIEKIPTQLFYCRKLRYLDSLHNNLTFL
 PADIGLLQNLQNLAVTANRIEALPPELFQCRKLRALHLGNNVLQSLPSRVGELTNLTQIELRGNRLECLP
 VELGECPLLKRSGLVVEEDLFSTLPPEVKERLWRADKEQA

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

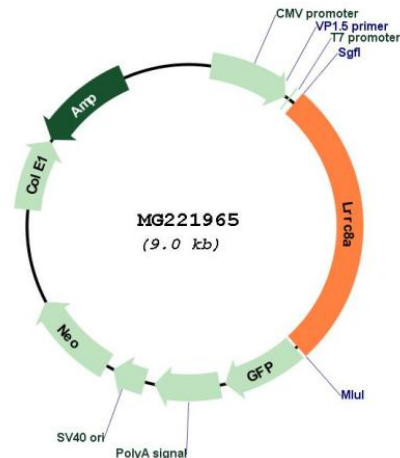
Cloning Scheme:

Cloning sites used for ORF Shutting:



CTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGCCAGATCT
 EcoRI BamHI KpnI RBS Kozac Consensus SgfI AscI
 CAAGCTTAAGCTAGCTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC
 HindIII NheI RsrII MluI NotI XhoI GFP Tag
 T R T R P L E M E S D
 --- --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT
 - - E E R V Stop
 PmeI FseI

Plasmid Map:



ACCN: NM_177725

ORF Size: 2430 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_177725.4](#), [NP_808393.1](#)

RefSeq Size: 4254 bp

RefSeq ORF: 2433 bp

Locus ID: 241296

UniProt ID: [Q80WG5](#)

Cytogenetics: 2 B

Gene Summary:

Essential component of the volume-regulated anion channel (VRAC, also named VSOAC channel), an anion channel required to maintain a constant cell volume in response to extracellular or intracellular osmotic changes (PubMed:29769723). The VRAC channel conducts iodide better than chloride and can also conduct organic osmolytes like taurine (By similarity). Mediates efflux of amino acids, such as aspartate and glutamate, in response to osmotic stress (By similarity). Required for channel activity, together with at least one other family member (LRRC8B, LRRC8C, LRRC8D or LRRC8E); channel characteristics depend on the precise subunit composition. Can form functional channels by itself (in vitro) (By similarity). Involved in B-cell development: required for the pro-B cell to pre-B cell transition (PubMed:14660746, PubMed:24752297). Also required for T-cell development (PubMed:24752297).[UniProtKB/Swiss-Prot Function]