

## Product datasheet for **MR226233**

### NGAL (Lcn2) (NM\_008491) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** NGAL (Lcn2) (NM\_008491) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** NGAL  
**Synonyms:** 24p3; AW212229; NRL; Sip24  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR226233 representing NM\_008491  
Red=Cloning site Blue=ORF Green=Tags(s)

CTATAGGGCGGCCGGAATTCGTGCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCCCTGAGTGTGTCATGTGTCTGGCCTTGCCCTGCTTGGGGTCTGCAGAGCCAGGCCAGGACTCAA  
CTCAGAACTTGATCCCTGCCCATCTCTGCTCACTGTCCCCTGCAGCCAGACTCCGGAGCGATCAGTT  
CCGGGGCAGGTGGTACGTTGTGGCCTGGCAGGCAATGCGGTCCAGAAAAACAGAAGGCAGCTTACG  
ATGTACAGCACCATCTATGAGCTACAAGAGAACAATAGCTACAATGTCACCTCCATCCTGGTCAGGGACC  
AGGACCAGGGCTGTCGCTACTGGATCAGAACATTTGTTCCAAGTCCAGGGCTGGCCAGTCACTCTGGG  
AAATATGCACAGGTATCCTCAGGTACAGAGCTACAATGTGCAAGTGGCCACCACGGACTACAACAGTTC  
GCCATGGTATTTTTCCGAAAGACTTCTGAAAACAAGCAATACTTCAAATTTACCCTGTATGGAAGAACCA  
AGGAGCTGTCCCCTGAACTGAAGGAACGTTTACCCTGTTGCAAGTCTCTGGGCCTCAAGGACGACAA  
CATCATCTTCTGTCCCCACCGACCAATGCATTGACAAC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCTGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-MluI



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**Cloning Scheme:**


**ACCN:** NM\_008491

**ORF Size:** 600 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](mailto: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.

**RefSeq:** [NM\\_008491.1](#), [NP\\_032517.1](#)

**RefSeq Size:** 853 bp

**RefSeq ORF:** 603 bp

**Locus ID:** 16819

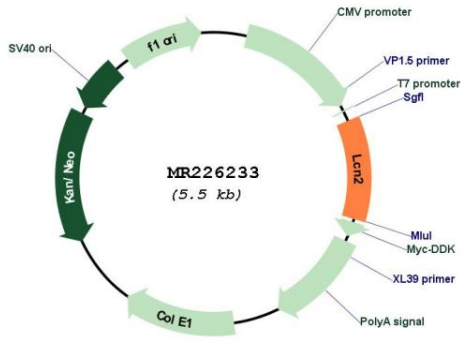
**UniProt ID:** [P11672](#)

**Cytogenetics:** 2 22.09 cM

**MW:** 23.3 kDa

**Gene Summary:** Iron-trafficking protein involved in multiple processes such as apoptosis, innate immunity and renal development (PubMed:12453413). Binds iron through association with 2,5-dihydroxybenzoic acid (2,5-DHBA), a siderophore that shares structural similarities with bacterial enterobactin, and delivers or removes iron from the cell, depending on the context. Iron-bound form (holo-24p3) is internalized following binding to the SLC22A17 (24p3R) receptor, leading to release of iron and subsequent increase of intracellular iron concentration. In contrast, association of the iron-free form (apo-24p3) with the SLC22A17 (24p3R) receptor is followed by association with an intracellular siderophore, iron chelation and iron transfer to the extracellular medium, thereby reducing intracellular iron concentration. Involved in apoptosis due to interleukin-3 (IL3) deprivation: iron-loaded form increases intracellular iron concentration without promoting apoptosis, while iron-free form decreases intracellular iron levels, inducing expression of the proapoptotic protein BCL2L11/BIM, resulting in apoptosis. Involved in innate immunity; limits bacterial proliferation by sequestering iron bound to microbial siderophores, such as enterobactin (PubMed:15531878, PubMed:16446425). Can also bind siderophores from M.tuberculosis (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR226233