

Product datasheet for **MG222979**

Lag3 (NM_008479) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Lag3 (NM_008479) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Lag3
Synonyms:	CD223; LAG-3; Ly66
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG222979 representing NM_008479
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAGGGAGGACCTGCTCCTTGGCTTTTGGCTCTGCGACTGCTTGGGAAGCTCCAGTTGTGTCTTCAG
 GGCTGGGAAAGAGCTCCCCGTGGTGTGGGCCAGGAGGAGCTCCCGTCCATCTCCCTGCAGCCTCAA
 ATCCCCAACCTGGATCCTAACTTTCTACGAAGAGGAGGGTTATCTGGCAACATCAACCAGACAGTGGC
 CAACCCACTCCCATCCCGGCCCTTGACCTTACCAGGGGATGCCCTCGCCTAGACAACCCGACCCGGTC
 GCTACACGGTGTGAGCGTGGCTCCAGGAGGCCTGCGCAGCGGGAGGCAGCCCTGCATCCCACGTGCA
 GCTGGAGGAGCGCGCCTCCAGCGCGGGGACTTCTCTGTGGTTGCGCCAGCTCTGCGCACCGATGCG
 GCGGAGTACCACGCCACCGTGCCTCCGAACCGCGCCCTCTCTGCAGTCTCCGCTGCGCGTCGGCC
 AGGCCTCGATGATTGCTAGTCCCTCAGGAGTCTCAAGCTGTCTGATTGGTCTTTTGAAGTCTCCTT
 CAGCCGTCTGACCGCCAGTCTCTGTGACTGGTTCCAGGGCCAGAACCAGTGCCTGTCTACAACCTCA
 CCGCGTCATTTTTAGCTGAAACTTTCTGTTACTGCCCAAGTCAAGCCCTGGACTCTGGGACCTGGG
 GCTGTGTCTCACCTACAGAGATGGCTTCAATGTCTCCATCACGTACAACCTCAAGTCTGGGTCTGGA
 GCCCGTAGCCCTCTGACAGTGTACGCTGCTGAAGTTCTAGGGTGGAGCTGCCCTGTCAATTTGCCCA
 GGAGTGGGAGCCCTTCTTTGCTCATTGCCAAGTGGACTCCTCTGGAGGAGTCTGAGCTCCCGTGG
 CTGAAAGAGTGGCAATTTACCTTACCTTGAGGCTGTGGGTCTGGCAGAGCTGGGACCTACACCTG
 TAGCATCCATCTGCAGGGACAGCAGTCAATGCCACTGTACGTTGGCGGTATCACAGTACTCCAAA
 TCCTTCGGGTACCTGGCTCCCGGGGAAGCTGTTGTGAGGTAACCCCGCATCTGAAAGGAAAGAT
 TTGTGTGGCGTCCCCTGAACAATCTGTCCAGGAGTTGCCCGGCCCTGTGCTGGAGATTCAGGAGCCAG
 GCTCCTTGTGAGCGATGGCAGTGTACGCTGTACGAGGGCCAGAGGCTTCTTGGAGCGACAGTGTACGCC
 GCAGAGTCTAGCTCAGGCGCCACAGTGTAGGAGAATCTCAGGTGACCTTAAAGGAGGCCATCTCGTTC
 TCGTTCTCATCTTGGTCCCTCTCCCTGTTCTTTTGGTGGCCGGGCTTTGGCTTCTACTGGTGGAG
 AAAACAGTTGCTACTGAGAAGATTTTCTGCCTTAGAACATGGGATTACAGCATTTCGGCTCAGAGGAAG
 ATAGAGGAGCTGGAGCGAGAAGTGGAGACGGAGATGGGACAGGAGCCGGAGCCCGAGCCGGAGCCACAGC
 TGGAGCCAGAGCCAGGCAGCTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG222979 representing NM_008479
 Red=Cloning site Green=Tags(s)

MREDLLLGFLLLGLLWEAPVSSGPGKELPVVWAQEGAPVHLPCSLKSPNLDPNFLRRGGVIWQHQPDSG
 QPTPIPALDLHQMPSPRQPAPGRYTVLSVAPGGLRSGRQPLHPHVQLEERGLQRGDFSLWLRPALRTDA
 GEYHATVRLPNRALSCLRLRVGQASMIASPSGLKLSDWVLLNCSF SRPDRPVSVHWFQGNRPVYNS
 PRHFLAETFLLLQVSPLDSGTWGCVLTYRDGFNVSITYNLKVLGLEPVAPLTVYAAEGSRVELPCHLPP
 GVGTPSLLIKWTTPGGPELPAVAGKSGNFTLHLEAVGLAQAGTYTCSIHLQGGQLNATVTLAVITVTPK
 SFGLPGRGKLLCEVTPASGKERFVWRPLNLSRSCPGPVLEIQEARLLAERWQCQLYEQRLLGATVYA
 AESSGSAHSARRISGDLKGGHLVVLILGALSLFLLVAGAFGFHWWRKQLLLRRFSALEHGIQPFPAQRK
 IEELERELETEMGQEPPEPEPEPQLEPEPRQL

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_008479

ORF Size: 1563 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_008479.2](#), [NP_032505.1](#)

RefSeq Size: 2020 bp

RefSeq ORF: 1566 bp

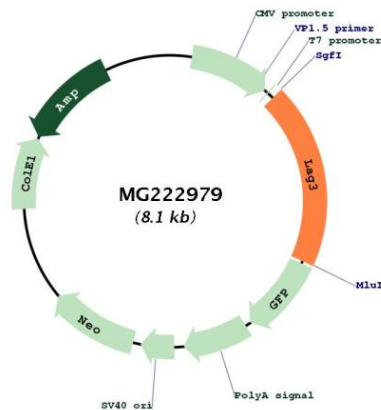
Locus ID: 16768

UniProt ID: [Q61790](#)

Cytogenetics: 6 F2

Gene Summary:

Lymphocyte activation gene 3 protein: Inhibitory receptor on antigen activated T-cells (PubMed:12209638, PubMed:12421911, PubMed:12672063, PubMed:15100286, PubMed:15634887, PubMed:30580966). Delivers inhibitory signals upon binding to ligands, such as FGL1 (PubMed:30580966). FGL1 constitutes a major ligand of LAG3 and is responsible for LAG3 T-cell inhibitory function (PubMed:30580966). Following TCR engagement, LAG3 associates with CD3-TCR in the immunological synapse and directly inhibits T-cell activation (PubMed:12209638, PubMed:12421911, PubMed:12672063, PubMed:15100286, PubMed:15634887). May inhibit antigen-specific T-cell activation in synergy with PDCD1/PD-1, possibly by acting as a coreceptor for PDCD1/PD-1 (PubMed:21300912). Negatively regulates the proliferation, activation, effector function and homeostasis of both CD8(+) and CD4(+) T-cells (PubMed:12209638, PubMed:12421911, PubMed:12672063, PubMed:15100286, PubMed:15634887). Also mediates immune tolerance: constitutively expressed on a subset of regulatory T-cells (Tregs) and contributes to their suppressive function (PubMed:15485628). Also acts as a negative regulator of plasmacytoid dendritic cell (pDCs) activation (PubMed:19201841). Binds MHC class II (MHC-II); the precise role of MHC-II-binding is however unclear (PubMed:12209638, PubMed:12421911, PubMed:15634887). [UniProtKB/Swiss-Prot Function]

Product images:


Circular map for MG222979