

Product datasheet for **RG219938**

ALAS1 (NM_000688) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ALAS1 (NM_000688) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ALAS1
Synonyms:	ALAS; ALAS-H; ALAS3; ALASH; MIG4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG219938 representing NM_000688
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGAGAGTGTGTTGTCGCCGCTGCCATTCTTATCCCAGTCCCCAGGCCTTCTCGACAAAGCAGGCA
 AATCTCTGTTGTTCTATGCCAAAAGTGCCCAAGATGATGGAAGTTGGGGCCAAGCCAGCCCTCGGGC
 ATTGTCCACTGCAGCAGTACACTACCAACAGATCAAAGAAACCCCTCCGGCCAGTGAGAAAGACAAAAC
 GCTAAGGCCAAGGTCCAACAGACTCCTGATGGATCCCAGCAGAGTCCAGATGGCACACAGCTTCCGTCG
 GACACCCCTTGCCTGCCACAAGCCAGGGCACTGCAAGCAAATGCCCTTCTGCGCAGCACAGATGAATCA
 GAGAGGCAGCAGTGTCTTCTGCAAAGCCAGTCTTGAGCTTCAGGAGGATGTGCAGGAAATGAATGCCGTG
 AGGAAAGAGGTTGCTGAAACCTCAGCAGGCCAGTGTGGTTAGTGTGAAAACCGATGGAGGGGATCCCA
 GTGGACTGCTGAAGAACTCCAGGACATCATGCAAAGCAAAGACCAGAAAGAGTGTCTCATCTTCTTCA
 AGATAACTTGCCAAAATCTGTTTCCACTTTTCAGTATGATCGTTTCTTTGAGAAAAAATGATGAGAAA
 AAGAATGACCACACCTATCGAGTTTTTAAACTGTGAACCGCGCAGCACACATCTCCCCATGGCAGATG
 ACTATTGAGACTCCCTCATCACCAAAAAGCAAGTGCAGTCTGGTGCAGTAATGACTACCTAGGAATGAG
 TCGCCACCCACGGGTGTGTGGGCGATTATGGACACTTTGAAACAACATGGTGTGGGGCAGGTGGTACT
 AGAAATATTTCTGGAAGTGTAAATCCATGTGGACTTAGAGCGGGAGCTGGCAGACCTCCATGGGAAAG
 ATGCCGCACTCTGTTTTCTCGTGCTTTGGGCAATGACTCAACCCCTTTCACCTGGCTAAGATGAT
 GCCAGGCTGTGAGATTTACTCTGATTCTGGGAACCATGCCTCCATGATCCAAGGGATTGAAACAGCCGA
 GTGCCAAAAGTACATCTCCGCCACAATGATGTCAGCCACCTCAGAGAAGTGTGCAAAGATCTGACCCCT
 CAGTCCCCAAGATTGTGGCATTGAAACTGTCCATTCAATGGATGGGGCGGTGTGCCCACTGGAAGAGCT
 GTGTGATGTGGCCATGAGTTTGGAGCAATCACCTTCGTGGATGAGGTCCACGCAGTGGGGCTTTATGGG
 GCTCGAGGCGGAGGATTGGGGATCGGGATGGAGTCATGCCAAAATGGACATCATTCTGGAACACTTG
 GCAAAGCCTTTGGTTGTGTTGGAGGATACATCGCCAGCACGAGTCTCTGATTGACACCGTACGGTCTTA
 TGCTGCTGGCTTCTCATCTTACCACCTCTCTGCCACCCATGCTGCTGGCTGGAGCCCTGGAGTCTGTGCGG
 ATCCTGAAGAGCGCTGAGGGACGGTGTCTCGCCGCCAGCACCAGCGCAACGTCAAACCTCATGAGACAGA
 TGCTAATGGATGCCGGCCTCCCTGTTGTCCACTGCCCCAGCCACATCATCCCTGTGCGGGTTCAGATGC
 TGCTAAAAACACAGAAGTCTGTGATGAACTAATGAGCAGACATAACATCTACGTGAAGCAATCAATTAC
 CCTACGGTGTCCCGGGGAGAAGAGCTCCTACGGATTGCCCCACCCCTCACCACACCCAGATGATGA
 ACTACTTCTTGAGAATCTGCTAGTCACATGGAAGCAAGTGGGGCTGGAAGTGAAGCCTCATTCTCAGC
 TGAGTGCAACTTCTGAGGAGGCCACTGCATTTTGAAGTATGAGTGAAGAGAGAAGTCTATTCTCA
 GGCTTGAGCAAGTTGGTATCTGCTCAGGCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG219938 representing NM_000688
 Red=Cloning site Green=Tags(s)

MESVVRRCPFLLSRVPQAFLLQKAGKSLFLFYAQNCPKMMVEGAKPAPRALSTAAVHYQQIKETPPASEKDKT
 AKAKVQQTPDGSQQSPDGTQLPSGHPLPATSQGTASKCPFLAAQMNQRGSSVFCKASLELQEDVQEMNAV
 RKEVAETSAGPSVVSVKTDGGDPSGLLKNFQDIMQKQRPERSHLLQDNLPKSVSTFYDRFFEKKIDEK
 KNDHTYRVFKTVNRRAHIFPMADDYSDSLITKKQVSVWCSNDYLGMSRHRVRCGAVMDTLKQHGAGAGGT
 RNISGTSKFHVDLERELADLHGKDAALLFSSCFVANDSTLFTLAKMMPGCEIYSDSGNHASMIQGIKNSR
 VPKYIFRHNDVSHLRELLQRSDPSVPKIVAFETVHSMGAVCPLEELCDVAHEFGAITFVDEVHAVGLYG
 ARGGGIGDRDGVMPKMDIISGTLGKAFGCVGGYIASTSSLIDTVRSYAAGFIFTTSLPPMLLAGALESVR
 ILKSAEGRVLRQHQRNVKLMRQMLMDAGLPVVHCPSHIIPVVRVADAAKNTEVCDELMSRHIYVQAINY
 PTVPRGEELLRIAPTHHTPQMMNYFLENLLVTWKQVGLLELKPSSAECNFCRRPLHFEVMSEREKSYFS
 GLSKLVSAQA

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



ACCN: NM_000688

ORF Size: 1920 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_000688.6](#)

RefSeq Size: 2407 bp

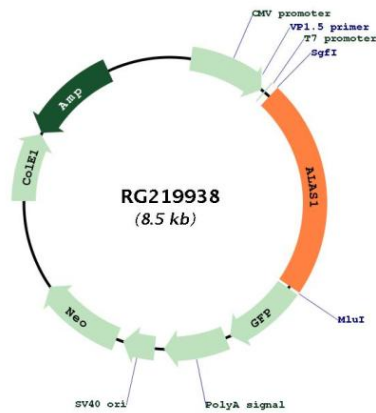
RefSeq ORF: 1923 bp

Locus ID: 211

UniProt ID: [P13196](#)

Cytogenetics:	3p21.2
Domains:	ALA_synthase, aminotran_1_2
Protein Pathways:	Glycine, serine and threonine metabolism, Metabolic pathways, Porphyrin and chlorophyll metabolism
Gene Summary:	This gene encodes the mitochondrial enzyme which catalyzes the rate-limiting step in heme (iron-protoporphyrin) biosynthesis. The enzyme encoded by this gene is the housekeeping enzyme; a separate gene encodes a form of the enzyme that is specific for erythroid tissue. The level of the mature encoded protein is regulated by heme: high levels of heme down-regulate the mature enzyme in mitochondria while low heme levels up-regulate. A pseudogene of this gene is located on chromosome 12. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jan 2015]

Product images:



Circular map for RG219938