

Product datasheet for **RG218312**

Band 3 (SLC4A1) (NM_000342) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Band 3 (SLC4A1) (NM_000342) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SLC4A1
Synonyms:	AE1; BND3; CD233; CHC; DI; EMPB3; EPB3; FR; RTA1A; SAO; SPH4; SW; WD; WD1; WR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG218312 representing NM_000342
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGAGGAGCTGCAGGATGATTATGAAGACATGATGGAGGAGAATCTGGAGCAGGAGGAATATGAAGACC
 CAGACATCCCCGAGTCCCAGATGGAGGAGCCGGCAGCTCACGACACCGAGGCAACAGCCACAGACTACCA
 CACCACATCACACCCGGGTACCCACAAGGTCTATGTGGAGCTGCAGGAGCTGGTATGGACGAAAAGAAC
 CAGGAGCTGAGATGGATGGAGGGCGCGCTGGGTGCAACTGGAGGAGAACCTGGGGGAGAATGGGGCT
 GGGGCCGCCGCACCTCTCACCTCACCTTCTGGAGCCTCCTAGAGCTGCGTAGAGTCTTACCAAGGG
 TACTGTTCTCCTAGACCTGCAAGAGACCTCCCTGGCTGGAGTGGCCAACCACTGCTAGACAGGTTTATC
 TTTGAAGACCAGATCCGGCTCAGGACCGAGAGGAGCTGCTCCGGGCCCTGCTGTTAAACACAGCCACG
 CTGGAGAGCTGGAGGCCCTGGGGGTGTGAAGCCTGCAGTCTGACACGCTCTGGGGATCCTTACAGCC
 TCTGCTCCCCAACACTCCTCACTGGAGACACAGCTCTTCTGTGAGCAGGAGATGGGGGCACAGAAGGG
 CACTACCATCTGGAATTCTGAAAAGATTCCCCCGATTTCAGAGGCCAGTTGGTGTAGTGGGCCGCG
 CCGACTTCTGGAGCAGCCGGTCTGGGCTTCGTGAGGCTGCAGGAGGCAGCGGAGCTGGAGCGGTGGA
 GCTGCCGGTGCTATACGCTTCTTTGTGTTGCTGGGACCTGAGGCCCCACATCGATTACACCCAG
 CTTGGCCGGGCTGCTGCCACCCTCATGTGAGAGGGGTGTTCCGCATAGATGCCTACATGGCTCAGAGCC
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 CTCCGAGCAGGCACTGCTCAGTCTGGTGCCTGTGAGAGGGAGCTACTTCGAAGGCGCTATCAGTCCAGC
 CCTGCCAAGCCAGACTCCAGCTTCTACAAGGGCCTAGACTTAAATGGGGGCCAGATACCCCTCTGCAGC
 AGACAGCCAGCTCTTCGGGGCCCTGGTGCATATCCGGCCCGCTACCCCTATTACCTGAGTGACAT
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 GTGTGGATCGGCTTCTGGCTCATCTGCTGGTGGTGGTGGTGGCCTTCGAGGGTAGCTTCTGGTCC
 GCTTCATCTCCGCTATACCCAGGAGATCTTCTCCTTCTCATTTCCCTCATCTTATGAGACTTT
 CTCCAAGCTGATCAAGATCTTCCAGGACCACCCACTACAGAAGACTTATAACTACAACGTGTTGATGGT
 CCCAAACCTCAGGGCCCCCTGCCAACACAGCCCTCCTCTCCCTGTGCTCATGGCCGGTACCTTCTTCT
 TTGCCATGATGCTGCGCAAGTTCAGAAGAGCTCCTATTTCCCTGGCAAGCTGCGTGGGTATCGGGGA
 CTTCCGGGTCCCCATCTCCATCCTGATCATGGTCTGGTGGATTTCTTATTAGGATACCTACACCCAG
 AAATCTCGGTGCCTGATGGCTTCAAGGTGTCAAACCTCCTCAGCCCGGGGCTGGGTATCCACCCACTGG
 GCTTGGTTCGAGTTTCCCATCTGGATGATGTTTGCCTCCGCCCTGCCTGCTGCTGGTCTTATCTCT
 CATATTCTGGAGTCTCAGATCACACGCTGATTTGTCAGCAAACCTGAGCGCAAGATGGTCAAGGGCTCC
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 TCAGTGCCACCACCGTGCCTCCGTACCCATGCCAACGCCCTCACTGTATGGGCAAAGCCAGCACCCC
 AGGGGCTGCAGCCAGATCCAGGAGGTCAAAGAGCAGCGGATCAGTGGACTCCTGGTGCCTGTGTTG
 GGCTGTCCATCCTCATGGAGCCATCCTGTCCGCATCCCCCTGGCTGTACTGTTGGCATCTTCTCT
 ACATGGGGTACGTCGCTCAGCGGCATCCAGCTCTTGACCGCATCTTGTCTGTTCAAGCCACCCAA
 GTATACCCAGATGTGCCTACGTCAAGCGGGTGAAGACCTGGCGCATGCACTTATTACGGGCATCCAG
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 TCCTCACTGTGCCGCTGCGGCCGCTCTGCTGCCGCTCATCTTACGGAACGTGGAGCTTCAAGTGTGGA
 TGCTGATGATGCCAAGGCAACCTTTGATGAGGAGGAAGTCCGGATGAATACGACGAAGTGGCCATGCCT
 GTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG218312 representing NM_000342
 Red=Cloning site Green=Tags(s)

MEELQDDYEDMMEENLEQEEYEDPDIPESQMEEPAHDTEATADYHTTSHPGTHKVVYVELQELVMDEKN
 QELRWMEARWVQLEENLGENGAWGRPHLSHLTFWSLLELRRVFTKGTVLLDLQETSLAGVANQLLDRFI
 FEDQIRPQDREELLRALLLKSHAGELEALGGVKPAVLTRSGDPSQPLLPQHSSLETQLFCEQGDGGTEG
 HSPSGILEKIPPDSEATLVLVGRADFLEQPVLFVRLQEAAELEAVELPVPIRFLVLLGPEAPHIDYTQ
 LGRAAATLMSEFRIDAYMAQSRGELLHSLEGLDCSLVLPPTDAPSEQALLSLVPVQRELLRRRYQSS
 PAKPDSFFYKGLDLNGGPDPLQQTQGLFGGLVRDIRRRYPYYLSDITDAFSPQVLAAVIFIYFAALSPA
 ITFGGLLEKTRNQMGVSELLISTAVQGILFALLGAQPLLVVGFSGPLLVFEEAFFSFCETNGLEYIVGR
 VWIGFWLILLVVLVVAFEGSFLVRFISRYTQEIFSFLISLIFIYETFSKLIKIFQDHLQKTYNNVLMV
 PKPQGPLPNTALLSLVLMAGTFFFAMMLRKFKNSSYFPGKLRVIGDFGVPIISILIMVLVDFFIQDTYTQ
 KLSVPDGFKVSNSARGWVIHPLGLRSEFPIWMMFASALPALLVFIILIFLESQITTLIVSKPERKMKVGS
 GFHLDLLLVVGMGVAALFGMPWLSATTVRSVTHANALVMGKASTPGAAAQIQEVEQRI SGLLVAVLV
 GLSILMEPILSRIPLAVLFGIFLYMGVTSLSGIQLFDRILLLFKPPKYHPDVPYVYKRVKTRWMLFTGIQ
 IICLAVLWVVKSTPASLALPFVILITVPLRRVLLPLIFRNVELQCLDADDAKATFDEEEGRDEYDEVAMP
 V

TRTRPLE - GFP Tag - V

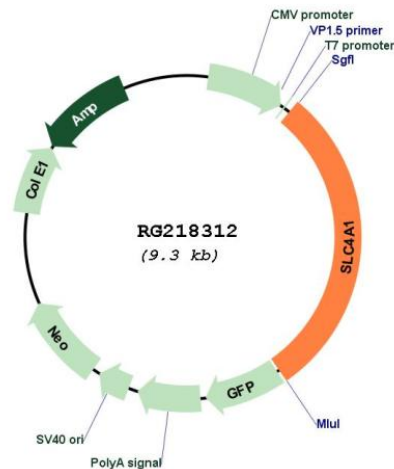
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_000342

ORF Size: 2733 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_000342.2](#)

RefSeq Size: 3637 bp

RefSeq ORF: 2736 bp

Locus ID: 6521

UniProt ID: [P02730](#)

Cytogenetics: 17q21.31

Domains:	HCO ₃ _cotransp
Protein Families:	Druggable Genome, Transmembrane
Gene Summary:	<p>The protein encoded by this gene is part of the anion exchanger (AE) family and is expressed in the erythrocyte plasma membrane, where it functions as a chloride/bicarbonate exchanger involved in carbon dioxide transport from tissues to lungs. The protein comprises two domains that are structurally and functionally distinct. The N-terminal 40kDa domain is located in the cytoplasm and acts as an attachment site for the red cell skeleton by binding ankyrin. The glycosylated C-terminal membrane-associated domain contains 12-14 membrane spanning segments and carries out the stilbene disulphonate-sensitive exchange transport of anions. The cytoplasmic tail at the extreme C-terminus of the membrane domain binds carbonic anhydrase II. The encoded protein associates with the red cell membrane protein glycophorin A and this association promotes the correct folding and translocation of the exchanger. This protein is predominantly dimeric but forms tetramers in the presence of ankyrin. Many mutations in this gene are known in man, and these mutations can lead to two types of disease: destabilization of red cell membrane leading to hereditary spherocytosis, and defective kidney acid secretion leading to distal renal tubular acidosis. Other mutations that do not give rise to disease result in novel blood group antigens, which form the Diego blood group system. Southeast Asian ovalocytosis (SAO, Melanesian ovalocytosis) results from the heterozygous presence of a deletion in the encoded protein and is common in areas where Plasmodium falciparum malaria is endemic. One null mutation in this gene is known, resulting in very severe anemia and nephrocalcinosis. [provided by RefSeq, Jul 2008]</p>