

Product datasheet for **MG209332**

Grhl3 (NM_001013756) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Grhl3 (NM_001013756) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Grhl3
Synonyms:	AI561912; ct; Get1; Som; Tfcp2l4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG209332 representing NM_001013756
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCGAATGAACCTTGTATTCAGGTCTGTGCGGTTGCTGAAGAATGACCCTGTGAGCTTCCAGAAGTTTC
 CCTACAGTAATGAGGACGAGGCCTGGAAGACATACCTGGAGAACCCTTTGACGGCTGCCACCAAAGCCAT
 GATGAGAGTCAACGGGGACGAGGAGAGTGTGGCTGCTCTGAGCTTCTCTACGACTACTATATGGGTCCC
 AAGGAGAAGCGGATACTGTCTCCAGCACTGGTGGCCGGAATGACCAAGGAAAGAAGTTCTACCACAGCA
 TGGACTATGAGCCGGATCTTGCCCCCTCGAGAGCCCCACACACCTCATGAAATTTTGGACAGAAACGT
 GTCTGGAAGTCCAGACTACACAGACCAGCTCAAGAAAAACAATCTGCTAGGCTTGAGGGGGTTCTACCC
 ACCCCCGCAAGACCAATACCGTCCCCCAGGTCGAGTAACTGGAAGCCAGCTCCATGGACAGCTACC
 TCTTGCCCGCCAGTGACATATATGACAATGGCTCCCTCAACTCATTATTTGAGAGCATTCATGGGGTTCC
 ACCCACACAGCGCTGGCAGCCAGACAGCACCTTCAAAGATGACCCACAGGAGTCTCTGCTTCCCTGAT
 ATTCTGAAGACATCCCCGACCCCCATGCCAGAGGATTATCCAGGCCTCAAGAGTGACTTTGAATACA
 CCCTGGGCTCCCCAAAGCCATTACATCAAAGCAGGGGAGTACCCATGGCCTACCTCAACAAGGGTCA
 GTTCTACCCCGTACCCTACGCACCCAGCAGGAGGAAAGGCCTCGCTCTGTCTCCAGCAAAGTCAAG
 AGCGTGGTGATGGTCTGTTGATAATGACAAGGTCCCGTGGAGCAGCTGCGTTTCTGGAGGCACTGGC
 ATCCCGGCAGCCACCGCAAGCAGCGCTCATCGACGTAGCTGACTGTAAAGAAAACCTCAACACGGT
 CCAGCACATTGAAGAGGTGGCCTATAACCGCTGTCTTTGTGTGAATGTCAACGAGGAAGCAAGGTG
 TTTATCGGTGTCAACTGTCTGAGCACAGACTTCTCCTCGAGAAGGGAGTGAAGGGTGTCCCCTGAAT
 TGCAAATTGACACCTATGACTGTGGAGCAGGCACTGAGCGCTGGTACACCGTGTCTGCCGATCAA
 GATCTTCTGTGATAAGGGAGCTGAGAGGAAGATGCCGATGATGAACGGAAGCAGTTTCGAAGGAAGGTC
 AAGTGCCAGACTCCAGTAAACAATGCAGGAATCAAGGGTGCCTGCTGTGAGGCTTCAAGGGCAATGAGA
 CCACATACTTGCGGCCAGAACTGACCTGGAGACCCAGCCTGTGTGTTTATCCCCAATCTGCATTTTTC
 CAGCCTACAGCGCCAGGAGGGTTGTCCCCTCAGCAGGACACAGCAGCTCTGACAGGCTGCCTCTGAAG
 CGAACCTGCTCACCTTTGCTGAGGAGTTTGTGAGCCTTCTCCTTCTAAACAAGCAAGGAAGATGACCTT
 AGAGAGTTCTGTTGATGTGAGGAGGAGACAGAGGAGGTTTGTGACGCGCTCATGTTGAAGACCCCGGA
 CCTGAAGGGCCTGAGGAATGCGATCTCTGAGAAGTACGGCCTCCCCGAGGAGAATATTTGCAAAGTCTAC
 AAGAAATGCAAGCGAGGCATCCTGGTTAACATGGACAACAACATCATCCAACACTACAGCAACCACGTGG
 CCTTCTGCTGGACATGGGTGAGCTGGACGGCAAGATCCAGATCATCCTGAAGGAGCTA

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG209332 representing NM_001013756
 Red=Cloning site Green=Tags(s)

MSNELDFRSVRLKNDPVSFQKFPYSNEDEAWKTYLENPLTAATKAMMRVNGDEESVAALSFLYDYMG
 KEKRILSSSTGGRNDQGKKFYHSMYEPDLAPLESPTLHMFLTENVSQSPDYTDQLKKNLLGLEGLV
 TPGKNTVPPGSKLEASSMSYLLPASDIYDNGSLNSLFESIHGVPPTQRWQPDSTFKDDPQESLLFPD
 ILKTSPPPCPEDYPLKSDFEYTLGSPKAIHIKAGESPMAYLNKGQFYPVTLRTPAGGKGLALSSSKVK
 SVVMVFDNDKVPVEQLRFWRHWSRQPTAKQRVIDVADCKENFNTVQHIEEVAYNALSFVWVNEEAKV
 FIGVNCLSTDFSSQKGVKGVPLNLQIDTYDCGAGTERLVHRAVCQIKIFCDKGAERKMRDDEKQFRKV
 KCPDSSNAGIKGCLLSGFRGNETTYLRPETDLETQPVLFIPNLHFSSLQRPGGVVPAGHSSSDRLPLK
 RTCSPFAEEFEPLPSKQAKEDDLQRVLLYVRRETEEVFDALMLKTPDLKGLRNAISEKYGLPEENICKVY
 KKCKRGILVMDNNIQHYSNHVAFLDMGELDGKIILKEL

TRTRPLE – GFP Tag – V

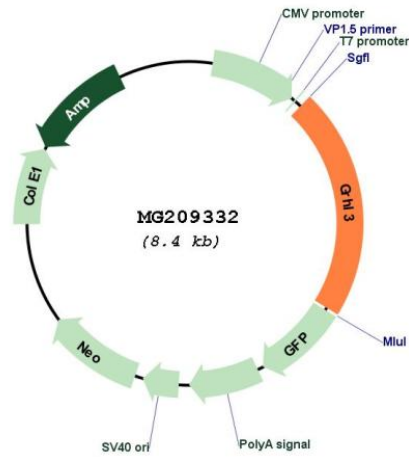
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001013756

ORF Size: 1809 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:	<ol style="list-style-type: none">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_001013756.2
RefSeq Size:	2798 bp
RefSeq ORF:	1812 bp
Locus ID:	230824
UniProt ID:	Q5FWH3
Cytogenetics:	4 67.76 cM
Gene Summary:	Transcription factor playing important roles in primary neurulation and in the differentiation of stratified epithelia of both ectodermal and endodermal origin. Binds directly to the consensus DNA sequence 5'-AACCGGTT-3' acting as an activator and repressor on distinct target genes. Essential for epidermal differentiation and barrier formation at the end of embryogenesis with TGM3 as critical direct target (PubMed:21081122, PubMed:20654612, PubMed:25347468). Exhibits functional redundancy with GRHL2 in epidermal morphogenetic events such as eyelid fusion and epidermal wound repair (PubMed:21081122). Despite being dispensable during normal epidermal homeostasis in the adulthood, is again required for barrier repair after immune-mediated epidermal damage, regulates distinct gene batteries in embryonic epidermal differentiation and adult epidermal barrier reformation after injury (PubMed:25347468). Plays unique and cooperative roles with GRHL2 in establishing distinct zones of primary neurulation. Essential for spinal closure, functions cooperatively with GRHL2 in closure 2 (forebrain/midbrain boundary) and posterior neuropore closure (PubMed:14608380, PubMed:20654612). Also required for proper development of the oral periderm (PubMed:24360809). No genetic interaction with GRHL1, no functional cooperativity due to diverse target gene selectivity (PubMed:21081122).[UniProtKB/Swiss-Prot Function]