

## Product datasheet for **MG208772**

### **Foxc1 (NM\_008592) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Foxc1 (NM_008592) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Foxc1
Synonyms:	ch; fkh-1; Fkh1; FREAC3; frkhda; Mf1; Mf4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG208772 representing NM\_008592  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCAGGCGCGCTACTCGGTGTCCAGCCCCAACTCCCTGGGAGTGGTGCCTACCTCGGCGGCGAGCAGA  
 GCTACTATCGCGCTGCCGCGGCGGGCGGGGCGGCTACACCGCCATGCCGGCCCTATGAGCGTGTA  
 CTCGCACCCTGTCTACGCCGAGCAGTACCCGGGAGCATGGCGCGCCTACGGGCTTATACGCCGAG  
 CCGCAGCCCAAGGACATGGTGAAGCCGCCCTACAGCTACATCGCTTTATCACCATGGCCATCCAGAATG  
 CCCCAGACAAGAAGATCACTCTGAATGGCATCTACCAGTTCATCATGGACCGTTCCTTCTATCGGGA  
 CAATAAGCAGGGTGGCAGAACAGCATAACGCACAACCTCTCGCTCAACGAGTGTTCGTCGAGGTGCC  
 CGCGACGACAAGAAGCCAGGCAAGGGCAGCTACTGGACGCTCGACCCGGACTCTACAACATGTTGAGA  
 ACGGCAGCTTCTGCGGCGGCGGCGCTTCAAGAAGAAGGACGAGTGAAGACAAGGAGGAGAAGGG  
 CCGGCTGCACCTCCAAGAACCAGCCACCGCCGAGCCGCGCCAGCCCGCGCCCGCCCGGAGCAG  
 GCCGAGGGCTCCGCTCCCGGGCCACAGCCGCGCCGCTGCGCATCCAGGACATCAAGACGGAGAACGGTA  
 CGTGTCCCTCGCCTCCCCAGCCCCTGTCCCGGCTGCCGCCCTAGGCAGCGGCAGCGCCGACAGTGCC  
 CAAAATCGAGAGCCCCGACAGCAGCAGCAGCTTGTGAGCGGGAGCAGCCCCCGGGCAGCCTGCCG  
 TCGGCGCGGCCGCTCAGCCTGGACGCTGCAAGACCCGCGCCGCCACAGCCTGCGCCGCGCCGATC  
 ACAGCCAGGGTTCAGCGTGGACAACATCATGACGTGCTGCGGGGTGCGCCGAGGGTTCGGCCGCTGA  
 GCTCGGTTCCGGCCTCTGGCCTCGGCGGCTGCGTCTCGCGCGGGGCATCGCGCCCCGCTGGCGTG  
 GGTGCCTACTCTCCGGCCAGAGCTCCCTCTACAGTCCCCCTGCAGCCAGAGCTCCAGTGGGGCAGTT  
 CGGGCGGCGGGGTGGCGGCGGCGGAGGCGCGGCAGCAGCAGCGCTGCGGGTACGGGGCGCGCC  
 CACTTACCACTGCAACCTGCAGGCTATGAGCCTGTACGCGCGGGCGAGGTTGGCGCCACTTGCAGGGT  
 CCGGCGGAGGCGCGGAGCGCGGCGGTGGACGACCCCTGCCGACTACTCGTGCCTCCAGCGACCA  
 GCAGCAGCTTTCGTCCTGAGTCATGGCGGGGCGGCCAGGAGGCCAGCCACCCTGCATCCCACCA  
 GGGCCGACTCACCTCGTGGTACCTGAACCAGGCAGGTGGAGACCTGGGCCACTTGGCGAGCGCGCGCG  
 GCTGCGGCGGCCGAGGCTACCTGGCCAGCAGCAGAATTCCACTCGGTGCGGGAAATGTTGAGTCTC  
 AGCGGATCGGCTTGAACAACTCCCGGTGAATGGGAATAGTAGTGTGAGATGGCTTCCCTGCCAGTCA  
 GTCTGTACCGCACGTGGGGGCTTTCGCTATGACTGTAGCAAATTC

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

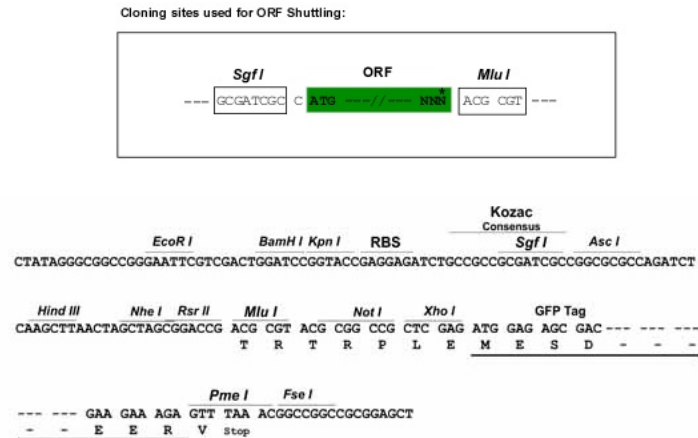
>MG208772 representing NM\_008592  
 Red=Cloning site Green=Tags(s)

MQARYSVSSPNSLGVVPYLGGESYRAAAAAAGGGYTAMPAPMSVYSHPAHAEQYPGSMARAYGPYTPQ  
 PQPKDMVKPPYSYIALITMAIQNAPDKKITLNGIYQFIMDRFPFYRDNKQGWQNSIRHNLSLNECFVKVP  
 RDDKKPKGKSYWTLDPDSYNMFENGSLRFRFRKFKKDAVKDKEEKGRHLHLQEPPPPQAGRQPAPAPPEQ  
 AEGSAPGPQPPPVRIDIKTENGTCPSPPQPLSPAAALGSGSAATVPKIESPDSSSSSLSSGSSPPGSLP  
 SARPLSLDAAEPAPPQPAPPPHHSQGFVSDNIMTSLRGSPPQSAELGSGLLASAAASSRAGIAPPLAL  
 GAYSPGQSSLYSSPCSQSSSAGSSGGGGGGGGSSAAGTGAATYHCNLQAMSLYAAGERGGHLQG  
 PAGGAGSAAVDDPLPDYSLPPATSSSSSLSHGGGGQEAHHPASHQGRLLTSWYLNQAGGDLGHLASAAA  
 AAAAAGYPGQQQNFHVSREMFESQRIGLNNSPVNGNSSCQMAFPASQSLYRTSGAFVYDCSKF

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_008592

**ORF Size:** 1659 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\\_008592.2](#), [NP\\_032618.2](#)

RefSeq Size: 3990 bp

RefSeq ORF: 1662 bp

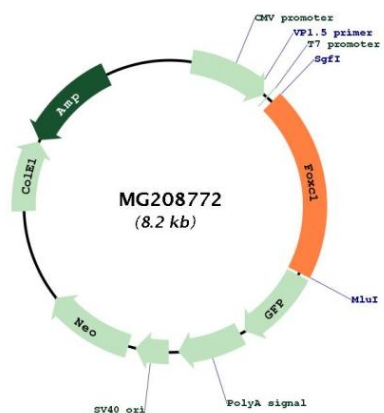
Locus ID: 17300

UniProt ID: [Q61572](#)

Cytogenetics: 13 13.52 cM

**Gene Summary:** DNA-binding transcriptional factor that plays a role in a broad range of cellular and developmental processes such as eye, bones, cardiovascular, kidney and skin development (PubMed:9635428, PubMed:9106663, PubMed:10479458, PubMed:10395790, PubMed:11562355, PubMed:18187037, PubMed:19668217, PubMed:22493429, PubMed:24590069, PubMed:25808752, PubMed:28223138). Acts either as a transcriptional activator or repressor (PubMed:28223138). Binds to the consensus binding site 5'-[G/C][A/T]AAA[T/C]AA[A/C]-3' in promoter of target genes (PubMed:25808752). Upon DNA-binding, promotes DNA bending. Acts as a transcriptional coactivator (PubMed:25808752). Stimulates Indian hedgehog (Ihh)-induced target gene expression mediated by the transcription factor GLI2, and hence regulates endochondral ossification (PubMed:25808752). Acts also as a transcriptional coregulator by increasing DNA-binding capacity of GLI2 in breast cancer cells. Regulates FOXO1 through binding to a conserved element, 5'-GTAAACAAA-3' in its promoter region, implicating FOXC1 as an important regulator of cell viability and resistance to oxidative stress in the eye (By similarity). Cooperates with transcription factor FOXC2 in regulating expression of genes that maintain podocyte integrity (PubMed:28223138). Promotes cell growth inhibition by stopping the cell cycle in the G1 phase through TGF $\beta$ 1-mediated signals. Involved in epithelial-mesenchymal transition (EMT) induction by increasing cell proliferation, migration and invasion (By similarity). Involved in chemokine CXCL12-induced endothelial cell migration through the control of CXCR4 expression (PubMed:18187037). Plays a role in the gene regulatory network essential for epidermal keratinocyte terminal differentiation (By similarity). Essential developmental transcriptional factor required for mesoderm-derived tissues formation, such as the somites, skin, bone and cartilage (PubMed:9106663, PubMed:10479458, PubMed:10395790, PubMed:10704385, PubMed:11562355, PubMed:15196959). Positively regulates CXCL12 and stem cell factor expression in bone marrow mesenchymal progenitor cells, and hence plays a role in the development and maintenance of mesenchymal niches for haematopoietic stem and progenitor cells (HSPC) (PubMed:24590069). Plays a role in corneal transparency by preventing both blood vessel and lymphatic vessel growth during embryonic development in a VEGF-dependent manner (PubMed:22171010). May function as a tumor suppressor (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MG208772