

## Product datasheet for **MG226631**

### Foxo3 (NM\_019740) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Foxo3 (NM_019740) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Foxo3
Synonyms:	1110048B16Rik; 2010203A17Rik; C76856; Fkhr2; FKHL1; Foxo3a
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG226631 representing NM\_019740  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCAGAGGCCACCGCTCCCGGTCCCGCTCTCTCCGCTCGAAGTGGAGCTGGACCCAGAGTTTCGAGC  
 CACAGAGTCGGCCACGCTCCTGTACGTGGCCCCCTGCAGAGGCCGGAGCTGCAGGGCAGCCCGCCAAAGCC  
 CTCGGGGGAGACGGCCGAGACTCCATGATCCCCGAGGAGGACGACGATGAAGACGACGAGGACGGCGGC  
 GGCCGAGCCAGCTCGGCCATGGTATCGGTGGCGGCGTGAGCAGCACGCTGGGTTCCGGGCTGCTCCTCG  
 AGGATTCGGCCATGCTGCTGGCTCCAGGAGGGCAGGACCTCGGGTCCGGGGCCAGCGTCCGCCGAGGCGC  
 TCTGAGTGGGGCACGCCGACGCTGCAGCCTCAGCAGCCACTGCCACAGCCGAGCCGGGGGCGGCT  
 GGGGGCTCTGGGCAACCAAGGAAATGCTCCTCGCGGCGGAATGCCTGGGGAACTGTCTATGCCGACC  
 TGATCACCCGCGCCATCGAGAGCTCCCGGACAAACGGCTCACTTTGTCCAGATCTACGAGTGGATGGT  
 GCGCTGTGTGCCCTACTCAAGGATAAGGGCGACAGCAACAGCTCTGCGGGCTGGAAGAACTCCATCCGG  
 CACAACCTGTCCCTGCACAGCCGTTTCATGCGCGTTTCAAGTGAAGGCACGGGCAAGAGCTCTTGGTGG  
 TCATCAACCCCGATGGGGAAAGAGCGGGAAGGCCCCCGCGGCGGTGCCGTCTCCATGGACAACAGCAA  
 CAAGTACACCAAGAGCCGAGGCCGGGCAGCCAAGAAGAAGGGCGGCCCTGCAGGCTGCCCCAGAGTCGGCA  
 GACGACAGTCTTCCAGCTCTCCAAGTGGCCTGGCAGCCCCACGTCCTCCGAGCAGCGACGAGCTGGATG  
 CGTGGACCGACTCCGCTCGCGCACCAATTCCAACGCCAGCACCGTGAGCGGCCGCTGTGCGCCATCCT  
 GGCAAGCACGGAGCTGGATGACGTCCAGGATGATGATGGACCCCTGTCCCCATGCTGTACAGCAGCTCT  
 GCCAGCCTGTGCGCCTCCGTGAGCAAGCCGTGTACTGTGGAGCTTCCGCGGCTGACGGACATGGCCGGCA  
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 ATCGCAGCCATCGCCTCCTGGCGGGCTTATGCAGCGGGGCTCCAGCTTCCATATACCGCCAAGAGCTCC  
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 AGTCACCCATGCAGACTATCCAGGAGAACAGACCACCTTCTCTTCCGTGTACACTACGGCAACCA  
 GACTCCAAGACCTGCTTGCTTCAAGTCACTCAGCCACAGCGACGTCATGATGACCCAGTCGGACCCC  
 TTGATGTCTCAGGCTAGCACCGCGTGTCCGCCAGAATGCCCGCGGAACGTGATGCTTCCGCAACGATC  
 CAATGATGTCTTTGCTGCCAGCCTACCCAGGGGAGTTTGGTCAATCAGAACTTGCTCCACCACCAGCA  
 CCAAACCCAGGGCGCTCTTGGTGGCAGCCGTGCCTTGTCAAATCTGTGCAACATGGGCTTGAGTGAC  
 TCCAGCAGCCTTGCTCAGCCAAACACCAGCAGCAGTCTCCCGCCAGCCAGTCTATGCAAACCTCTCGG  
 ACTCTCTCTCAGGCTCCTCACTGTATTCAGCTAGTGCAAACCTTCCCGTCATGGGCCACGATAAGTCCC  
 CAGTGACTTGGACCTGGACATGTTCAATGGGAGCTTGAATGTGACATGGAGTCCATCATCCGTAGTGAA  
 CTCATGGATGCTGACGGGTTGGATTTTAACTTTGACTCCCTCATCTCCACACAGAACGTTGTTGGTTTGA  
 ATGTGGGGAACCTCACTGGTGCTAAGCAGGCCTCATCTCAAAGCTGGGTACCAGGC

**ACGCGT**ACGCGGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG226631 representing NM\_019740  
 Red=Cloning site Green=Tags(s)

MAEAPASPVPLSPLEVELDPEFEPQSRPRSCTWPLQRPELQASPAKPSGETAADSMIPEEDDEDEDGG  
 GRASSAMVIGGGVSSTLGSGLLLEDSAMLLAPGGQDLGSGPASAAGALSGGTPTQLQPQQPLPQPQGAA  
 GSGGQPRKCSSRRNAWGNLSYADLITRAIESSPKRLTLSQIYEMVRCVPYFKDKGDSNSAGWKNISIR  
 HNL SLHSRFRMRVQNEGTGKSSWWIINPDGGKSGKAPRRRAVSMDNSNKYTKSRGRAAKKKAALQAAPESA  
 DDSPSQLSKWPGSPTSRSDELDAWDFRSRTNSNASTVSGRLSPILASTELEDVQDDDGPLSPMLYSSS  
 ASLSPSVSKPCTVELPRLTDMAGTMNLNDGLAENLMDDLNDNIALPPSQSPGGMLMQRGSSFPYAKSS  
 GLGSPGTFNSTVFGPSSLSLNRQSPMQTIQENRPAATFSSVSHYGNQTLQDLLASDSLHSDVMMTQSDP  
 LMSQASTAVSAQNARRNVMLRNDPMMMSFAAQPTQGSLVNQNLHHQHQTQALGGSRALSNSVSNMGLSD  
 SSSLGSAKHQQQSPASQSMQTLSDSLSGSSLYSASANLPMVGHDKFPSDLDLDMFNGLSLECDMESIIRSE  
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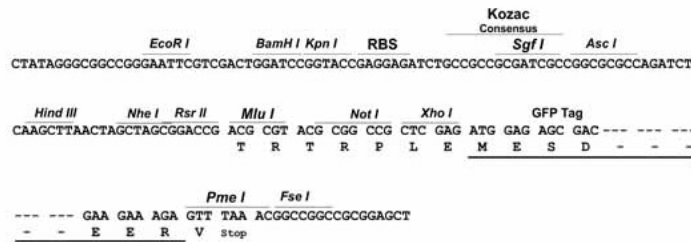
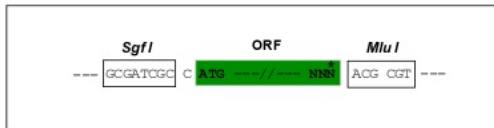
TRTRPLE - GFP Tag - V

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja1863\\_a01.zip](https://cdn.origene.com/chromatograms/ja1863_a01.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



**ACCN:** NM\_019740

**ORF Size:** 2016 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\\_019740.3](#)

**RefSeq Size:** 2889 bp

**RefSeq ORF:** 2019 bp

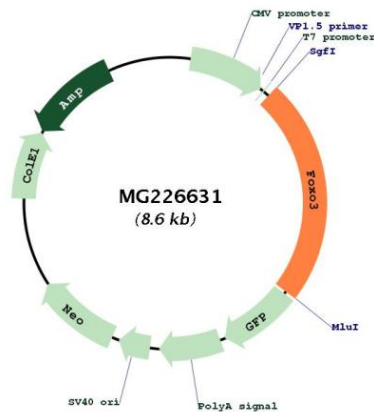
**Locus ID:** 56484

**UniProt ID:** [Q9WVH4](#)

**Cytogenetics:** 10 22.79 cM

**Gene Summary:**

Transcriptional activator that recognizes and binds to the DNA sequence 5'-[AG]TAAA[TC]A-3' and regulates different processes, such as apoptosis and autophagy (PubMed:18054316, PubMed:18054315, PubMed:23805378). Acts as a positive regulator of autophagy in skeletal muscle: in starved cells, enters the nucleus following dephosphorylation and binds the promoters of autophagy genes, such as GABARAP1L, MAP1LC3B and ATG12, thereby activating their expression, resulting in proteolysis of skeletal muscle proteins (PubMed:18054316, PubMed:18054315, PubMed:25402684). Triggers apoptosis in the absence of survival factors, including neuronal cell death upon oxidative stress (By similarity). Participates in post-transcriptional regulation of MYC: following phosphorylation by MAPKAPK5, promotes induction of miR-34b and miR-34c expression, 2 post-transcriptional regulators of MYC that bind to the 3' UTR of MYC transcript and prevent its translation (By similarity). In response to metabolic stress, translocates into the mitochondria where it promotes mtDNA transcription (PubMed:23283301).[UniProtKB/Swiss-Prot Function]

**Product images:**

Circular map for MG226631