

Product datasheet for **MG215594**

Sirt4 (NM_133760) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Sirt4 (NM_133760) Mouse Tagged ORF Clone
Tag: TurboGFP
Symbol: Sirt4
Synonyms: 4930596O17Rik
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >MG215594 representing NM_133760
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGAGCGGATTGACTTTTCAGGCCGACAAAGGGCCGTTGGATCACCCACCTCAGCCGGCCGCGTTCTTGTC
GACCCTCGGGTTATTTGTGCCGCCAGCCCTCCTTTGGACCCTGAAAAGATCAAAGAGTTACAGCGCTT
CATTAGCCTTTCCAAGAACTCCTCGTGATGACAGGCGCGGGATCTCCACCGAGTCCGGCATCCAGAG
TACAGGTCAGAAAAGGTGGGACTTTACGCCGCACTGACCGGAGACCCATCCAGCACATTGATTTCTGTC
GCAGTGTCCGGTCCGCCAGCGTACTGGGCCGAACTTTGTGGCTGGCCTCAATTCTCTCTACCA
ACCCAACCCAGCACACTGGGCTCTGAGCAACTGGGAGAGACTGGGGAAGCTGCACTGGTTGGTACTCAG
AACGTGGACGCTTTGCACTCAAAGCAGGGAGTCAGCGGCTGACGGAGCTCCACGGATGCATGCACAGAG
TCCTGTGCTGAACTGTGGGGAGCAGACTGCCCGCAGGGTGTGCAGGAACGCTTCCAAGCCCTGAACCC
CAGCTGGAGCGCCGAGGCGCAGGGCGTGGCTCCCGACGGCGACGTGTTTCTCACTGAGGAGCAGGTCGG
AGCTTTCAGGTCCCGTGTGATCGATGCGGGCCCTCTGAAACCGGACGTCGTTTCTTTGGGGACA
CGGTGAACCCAGACAAGGTTGACTTTGTGACCCGGCGTGTGAAAGAGCGGACTCCCTACTGGTGGTGGG
ATCATCCCTGCAGGTGACTCTGGTTACAGGTTTCATCCTACCCGCCGCGAGCAAAGCTCCCAATAGCC
ATTCTGAATATCGGCCCCACCCGGTCTGACGATTTGGCTTGCTGAAGCTGGATTCCCGCTGTGGAGAGT
TGCTGCCTTTAATAGACCCGCGGAGACGACTCTGATGTCCAAAGGCTGGAAATGAACCTTCTCTGAG
TCCGCTGCTCAAGATCCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >MG215594 representing NM_133760
 Red=Cloning site Green=Tags(s)

MSGLTFRPTKGRWITHLSRPRSCGPGSLFVPPSPPLDPEKIKELQRFISLSKLLVMTGAGISTESGIPD
 YRSEKVGLYARTDRRPIQHIDFVRSAPVRQRYWARNFVGWPQFSSHQPNPAHWALSNWERLGKHLWLV
 TQNVDALHSKAGSQRLTELHGCMHRVLCNCGEQTARRVLQERFQALNPSWSAEAQGVAPDGDVFL
 TEEQVRSFQVPCCDRCGGPLKPDVVFVFGDTVNPDKVDFVHRRVKEADSLLVGSSLQVYSGYR
 FILITAREQKLPILINIGPTRSDDLACLKLSRCGELLPLIDPRRQHSQVRLQLEMNFLSSAAQDP

TRTRPLE - GFP Tag - V

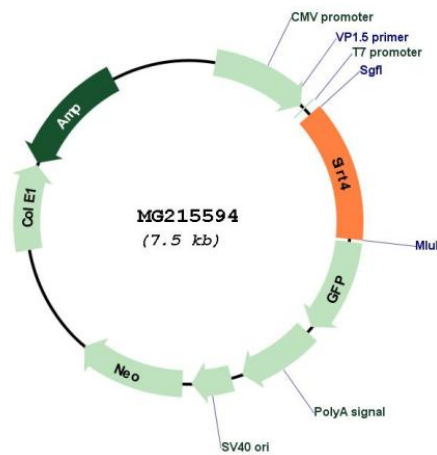
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_133760

ORF Size: 999 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_133760.1 , NP_598521.1
RefSeq Size:	1553 bp
RefSeq ORF:	1002 bp
Locus ID:	75387
UniProt ID:	Q8R216
Cytogenetics:	5 F
Gene Summary:	Acts as NAD-dependent protein lipoamidase, ADP-ribosyl transferase and deacetylase (PubMed:19220062). Catalyzes more efficiently removal of lipoyl- and biotinyl- than acetyl-lysine modifications. Inhibits the pyruvate dehydrogenase complex (PDH) activity via the enzymatic hydrolysis of the lipoamide cofactor from the E2 component, DLAT, in a phosphorylation-independent manner (PubMed:25525879). Catalyzes the transfer of ADP-ribosyl groups onto target proteins, including mitochondrial GLUD1, inhibiting GLUD1 enzyme activity. Acts as a negative regulator of mitochondrial glutamine metabolism by mediating mono ADP-ribosylation of GLUD1: expressed in response to DNA damage and negatively regulates anaplerosis by inhibiting GLUD1, leading to block metabolism of glutamine into tricarboxylic acid cycle and promoting cell cycle arrest (PubMed:16959573). In response to mTORC1 signal, SIRT4 expression is repressed, promoting anaplerosis and cell proliferation (PubMed:23663782). Acts as a tumor suppressor (PubMed:23562301, PubMed:23663782). Also acts as a NAD-dependent protein deacetylase: mediates deacetylation of 'Lys-471' of MLYCD, inhibiting its activity, thereby acting as a regulator of lipid homeostasis (PubMed:23746352). Does not seem to deacetylate PC (PubMed:23438705). Controls fatty acid oxidation by inhibiting PPARA transcriptional activation. Impairs SIRT1:PPARA interaction probably through the regulation of NAD(+) levels (PubMed:24043310, PubMed:20685656). Down-regulates insulin secretion (By similarity).[UniProtKB/Swiss-Prot Function]