# Product datasheet for MC211619

## Sirt4 (NM_133760) Mouse Untagged Clone

## Product data:

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| **Product Type:** | Expression Plasmids |
| **Product Name:** | Sirt4 (NM_133760) Mouse Untagged Clone |
| **Tag:** | Tag Free |
| **Symbol:** | Sirt4 |
| **Synonyms:** | 4930596O17Rik |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |
| **Fully Sequenced ORF:** | >MC211619 representing NM_133760<br>Red=Cloning site Blue=ORF Orange=Stop codon |

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGCGGATTGACTTTCAGGCCGACAAAGGGCCGTTGGATCACCCACCTCAGCCGGCCGCGTTCTTGTG
GACCCTCGGGGTTATTTGTGCCGCCCAGCCCTCCTTTGGACCCTGAAAAGATCAAAGAGTTACAGCGCTT
CATTAGCCTTTCCAAGAAACTCCTCGTGATGACAGGCGCGGGGATCTCCACCGAGTCCGGCATCCCAGAC
TACAGGTCAGAAAAGGTGGGACTTTACGCCCGCACTGACCGGAGACCCATCCAGCACATTGATTTCGTCC
GCAGTGCTCCGGTCCGCCAGCGGTACTGGGCCCGAAACTTTGTGGGCTGGCCTCAATTCTCCTCTCACCA
ACCCAACCCAGCACACTGGGCTCTGAGCAACTGGGAGAGACTGGGGAAGCTGCACTGGTTGGTGACTCAG
AACGTGGACGCTTTGCACTCCAAAGCAGGGAGTCAGCGGCTGACGGAGCTCCACGGATGCATGCACAGAG
TCCTGTGCCTGAACTGTGGGGAGCAGACTGCCCGCAGGGTGCTGCAGGAACGCTTCCAAGCCCTGAACCC
CAGCTGGAGCGCCGAGGCGCAGGGCGTGGCTCCCGACGGCGACGTGTTCCTCACTGAGGAGCAGGTCCGG
AGCTTTCAGGTCCCGTGCTGTGATCGATGCGGCGGCCCTCTGAAACCGGACGTCGTTTTCTTTGGGGACA
CGGTGAACCCAGACAAGGTTGACTTTGTGCACCGGCGTGTGAAAGAGGCGGACTCCCTACTGGTGGTGGG
ATCATCCCTGCAGGTGTACTCTGGTTACAGGTTCATCCTCACCGCCCGCGAGCAAAAGCTCCCAATAGCC
ATTCTGAATATCGGCCCCACCCGGTCTGACGATTTGGCTTGCCTGAAGCTGGATTCCCGCTGTGGAGAGT
TGCTGCCTTTAATAGACCCGCGGGAGACAGCACTCTGATGTCCAAAGGCTGGAAATGAACTTTCCTCTGAG
TTCCGCTGCTCAAGATCCCTAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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| **Restriction Sites:** | SgfI-MluI |

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| **ACCN:** | NM_133760 |
| **Insert Size:** | 1002 bp |
| **OTI Disclaimer:** | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). |
| **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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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. |
| **Note:** | Plasmids are not sterile.  For experiments where strict sterility is required, filtration with 0.22um filter is required. |
| **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]
Transcript Variant: This variant (2) differs in the 5' UTR compared to variant 1. Both variants 1 and 2 encode the same protein. Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.