

Product datasheet for MR217552

Acer1 (NM_175731) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Acer1 (NM_175731) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Acer1
Synonyms:	2310024P18Rik; AI662009; Alkcdase1; Asah3; Cer1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR217552 representing NM_175731 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCATGTACCGGCACCAGAGCAAAGATGTCCAGCATCTTGCCTATCAGAGTCTGAGGTGGATTGGT
GTGAGAGTAATTTCCAGCACTCAGAGTTGGTGGCCGAGTTCTACAATACGTTCCAGCAATGTGTTCTTCTC
CATCTTTGGACCCCTCATGATGTTCTCATGCATCCGATGCCAGAAAGCGTACCCGGTGTTCATGGA
GTGTCAGTCTCTCATGCTCATAGGTCTGTTCTCCATGTATTTCCACATGACACTCAGCTTCTGGGAC
AGCTGCTGGATGAGATCTCCATCTGTGGTTGTTGGCCAGTGGATACAGTGTGTGGCTGCCCGTTGCTA
TTTTCCAAGTTCGTCAAGGGGAACAGGTTCTACTTCAGCTGCCTGGTAACTATAACCACTATTATCAGC
ACCTTCTTGACGTTCTGTGAAGCCACAGTCAATGCATATGCTCTCAACAGCATCGCCATCCACATCTCT
ACATTGTGCGCACAGAGTACAAGAAGATTAGGGATGATGATCTTCGGCATCTGATTGCGGTTTCTGTGGT
CTTATGGGCCGCTGCACTGACCAGCTGGATCAGTGACCGTGTACTTTGCAGCTTCTGGCAGCGGATTAC
TTCTACTACCTGCACAGCATTGGCACGTCCTATAAGCATCACATTTCTTATGGTATCGTGACCATGG
CCCTGGTGGATGCAAAGTATGAGATGCCAGATAAAACCCTCAAAGTCCACTACTGGCCCCGGGACAGCTG
GGTCATCGGGCTACCCTATGTGGAGATCCAGGAGAATGACAAGAACTGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >MR217552 representing NM_175731
 Red=Cloning site Green=Tags(s)

MHVPGTRAKMSSIFAYQSSEVDWCESNFQHSSELVAEFYNTFSNVFFLIFGPLMMFLMHPYAQKRTRCFYG
 VSVLFMLIGLFSMYFHMTLSFLGQLLDEISILWLLASGYSVWLPKCYFPKFVKGNRFYFSCLVITITTIIS
 TFLTFFVKPTVNAYALNSIAIHILYIVRTEYKKIRDDDLRHLIAVSVLWAAALTSWISDRVLCFSWQRIH
 FYLHLSIWHVLI SITFPYGIVTMALVDAKYEMPDKTLKVHYWPRDSWVIGLPYVEIQENDKNC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mm9024_b04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_175731

ORF Size: 819 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:

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_175731.4](#), [NP_783858.1](#)

RefSeq Size: 2429 bp

RefSeq ORF: 822 bp

Locus ID: 171168

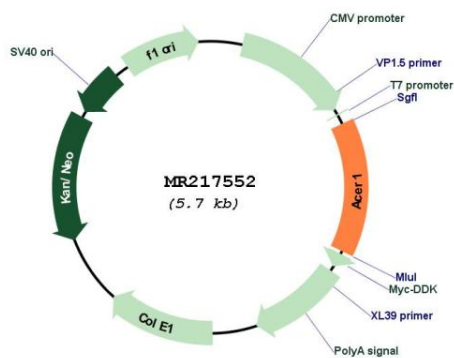
UniProt ID: [Q8R4X1](#)

Cytogenetics: 17 D

MW: 32.5 kDa

Gene Summary: Endoplasmic reticulum ceramidase that catalyzes the hydrolysis of ceramides into sphingosine and free fatty acids at alkaline pH (PubMed:12783875). Ceramides, sphingosine, and its phosphorylated form sphingosine-1-phosphate are bioactive lipids that mediate cellular signaling pathways regulating several biological processes including cell proliferation, apoptosis and differentiation (PubMed:12783875). Exhibits a strong substrate specificity towards the natural stereoisomer of ceramides with D-erythro-sphingosine as a backbone and has a higher activity towards very long-chain unsaturated fatty acids like the C24:1-ceramide (PubMed:12783875). May also hydrolyze dihydroceramides to produce dihydrosphingosine (By similarity). ACER1 is a skin-specific ceramidase that regulates the levels of ceramides, sphingosine and sphingosine-1-phosphate in the epidermis, mediates the calcium-induced differentiation of epidermal keratinocytes and more generally plays an important role in skin homeostasis (PubMed:27126290, PubMed:29056331). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR217552