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# Product datasheet for RC236255

## Phytoceramidase (ACER3) (NM_001300955) Human Tagged ORF Clone

### Product data:

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|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | Phytoceramidase (ACER3) (NM_001300955) Human Tagged ORF Clone |
| **Tag:** | Myc-DDK |
| **Symbol:** | ACER3 |
| **Synonyms:** | APHC; PHCA; PLDECO |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |
| **Cell Selection:** | Neomycin |
| **ORF Nucleotide Sequence:** | >RC236255 representing NM_001300955<br>Red=Cloning site Blue=ORF Green=Tags(s)<br><br>TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC<br>GCCGCGATCGCC<br><br>ATGATATACAGCTGTTGCATATTTGTGTACTGCATGTTTGAATGTTTCAAGATCAAGAACTCAGTAAACT<br>ACCATCTGCTTTTTACCTTAGTTCTATTCAGTTTAATAGTAACCACAGTTTACCTTAAGGTAAAAGAGCC<br>GATATTCCATCAGGTCATGTATGGAATGTTGGTCTTTACATTAGTACTTCGATCTATTTATATTGTTACA<br>TGGGTTTATCCATGGCTTAGAGGACTGGGTTATACATCATTGGGTATATTTTTATTGGGATTTTTATTTT<br>GGAATATAGATAACATATTTTGTGAGTCACTGAGGAACTTTCGAAAGAAGGTACCACCTATCATAGGTAT<br>TACCACACAATTTCATGCATGGTGGCATATTTTAACTGGCCTTGGTTCCTATCTTCACATCCTTTTCAGT<br>TTGTATACAAGAACACTTTACCTGAGATATAGGCCAAAAGTGAAGTTTCTCTTTGGAATCTGGCCAGTGA<br>TCCTGTTTGAGCCTCTCAGGAAGCAT<br><br>ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT<br>ACAAGGATGACGACGATAAGGTTTAA |
| **Protein Sequence:** | >RC236255 representing NM_001300955<br>Red=Cloning site Green=Tags(s)<br><br>MIYSCCIFVYCMFECFKIKNSVNYHLLFTLVLFSLIVTTVYLKVKEPIFHQVMYGMLVFTLVLRSIYIVT<br>WVYPWLRGLGYTSLGIFLLGFLFWNIDNIFCESLRNFRKKVPPIIGITTQFHAWWHILTGLGSYLHILFS<br>LYTRTLYLRYRPKVKFLFGIWPVILFEPLRKH<br><br>TRTRPLEQKLISEEDLAANDILDYKDDDDKV |
| **Restriction Sites:** | SgfI-MluI |

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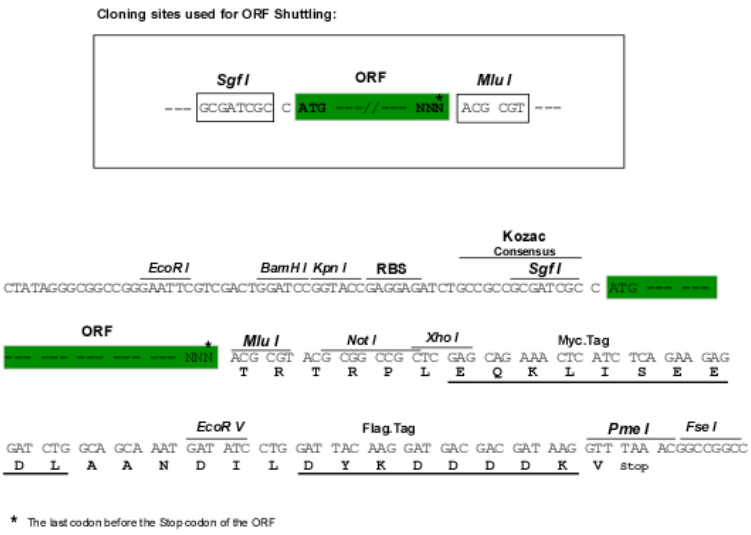
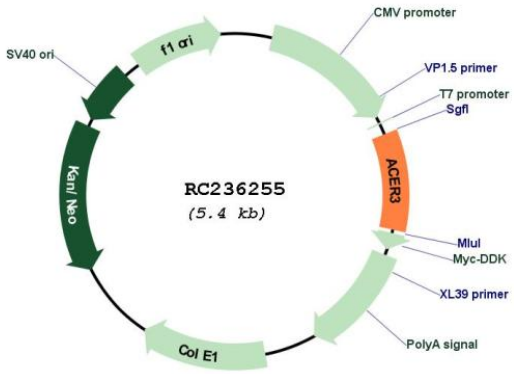
**Cloning Scheme:**




**Plasmid Map:**




**ACCN:** NM_001300955

**ORF Size:** 516 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.

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| **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. |
| **RefSeq:** | NM_001300955.2 |
| **RefSeq Size:** | 7337 bp |
| **RefSeq ORF:** | 519 bp |
| **Locus ID:** | 55331 |
| **Cytogenetics:** | 11q13.5 |
| **Protein Families:** | Transmembrane |
| **Protein Pathways:** | Sphingolipid metabolism |
| **MW:** | 21.1 kDa |
| **Gene Summary:** | Endoplasmic reticulum and Golgi ceramidase that catalyzes the hydrolysis of unsaturated long-chain C18:1-, C20:1- and C20:4-ceramides, dihydroceramides and phytoceramides into sphingoid bases like sphingosine and free fatty acids at alkaline pH (PubMed:20068046, PubMed:26792856, PubMed:20207939, PubMed:11356846, PubMed:30575723). 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:20068046). Controls the generation of sphingosine in erythrocytes, and thereby sphingosine-1-phosphate in plasma (PubMed:20207939). Through the regulation of ceramides and sphingosine-1-phosphate homeostasis in the brain may play a role in neurons survival and function (By similarity). By regulating the levels of proinflammatory ceramides in immune cells and tissues, may modulate the inflammatory response (By similarity).[UniProtKB/Swiss-Prot Function] |