

## Product datasheet for **SC127602**

### **MLSTD2 (FAR1) (AK090880) Human Untagged Clone**

#### **Product data:**

|                           |                                               |
|---------------------------|-----------------------------------------------|
| Product Type:             | Expression Plasmids                           |
| Product Name:             | MLSTD2 (FAR1) (AK090880) Human Untagged Clone |
| Tag:                      | Tag Free                                      |
| Symbol:                   | MLSTD2                                        |
| Synonyms:                 | MLSTD2; PFCRD; SDR10E1                        |
| Mammalian Cell Selection: | None                                          |
| Vector:                   | <u>pCMV6-XL4</u>                              |
| E. coli Selection:        | Ampicillin (100 ug/mL)                        |



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**Fully Sequenced ORF:** >NCBI ORF sequence for AK090880, the custom clone sequence may differ by one or more nucleotides

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TTGTTGTATCTTTTGTAGAAAAAATAATCACCTAATCTTTCTAAGAGCAGCATGTGTTTTCCCC
CAGATGCTTTTATCTACAGAACTATCCCTGTCCAGAAATTGCCTTAGATGCTTGATAATTCGTTTTGTG
TTTGAGATTTTATTTGAAGTTACTTTATTGGATGAAATATAGTTCTTTTACATAGTTTACATTGCTT
CATTTTCTCCAGTATTCTGGATTGAGAGTTTATTCTAAATGTATTGAATTGTGTATCAGAAAGTGCTT
AGCTAATGATACTTTTTGATTTTTTCTCCTATTCTAATGTAATTTCCCTCCATGCCCTCCCATTT
CTAAAACCCCTAATTTGAGACTGTCTAACTACATGATACATATAATCCTAATCTTTATTATAATATAA
ATGAAATCTTTAAAAAGTACTTCTCAAAAATTCTTTTCTGTTACAGAAAGTGGGATTTTTTGGTGT
TTGCTTTGTTTACAGAAAGTTCTTTCTCCCTTTCCCTACTTATAATAAATATTATTGTATAGATGTTACT
GCTCAAGTTAGTGTTATGATATCAATGACTTACAGTGAGCCATGATATATAAATGACAGATTTAAAGAT
TAAAGCTCCTTGACTTTTAAAAACAAAGAATCACAGTCTTTCTTAAAGACACACTTTAAAAAGAGTGT
CACACTCCTTTATTTCTGAAGGATGAGTATTGGTGGGTATGGAGAGGTGAGTGGATATCTATTTTCTGAG
TAGTTTTCTAGCATGAGTCATTGATTTTACAGCAGATCCAGATGATCAAGAGTGGTGCCAATCATTGTAA
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GCTTCAGCAGTGCTGAAGAGTTGGAATTATAAATAACACAGTATGTTATTAATTCACAGGAAATCTTA
GCAATGACAGCTGTGAATTAATGTAGTTTAAAGAGTATTGTATACCTTTGAGAATTAATCTGTATATCA
GCAGAACTCTGTTTAGGTGGTATTAATGCATTGCTGCTGCTTTCAAAAAAATTTGTTTTCTTTTGG
ATTTATAAATTTGTTTATCAAGATGCAGAAATAGTCTTATCCCTGCTGATTTGGTACACTTAATGATTA
AATGTTATAATTTAATACTAATGTCTATATTATAGGGGAAACTTGCACCCTGGGTGGTATAGGATTT
TTCTTAATCTATACAAAATATGAATCTGTCCATTTTCTTACAATACAGGATGATGAAAACAATAACTCG
TCTTCACAAAGCTATGGTGTCTTGAATATTTTACAAGTAATTTCTGGGTTTGGAACTGAGAATGTC
AATATGTTAATGAATCACTAAACCTGAAGATAAAAAAGACCTTCAATATTGATGTACGGCAGTTACATT
GGGCAGAAATATAGAGAACTACTGCTTGGGAATAAGAAGTACGTATTGAATGAAGAAATGCTGGCCT
CCCTGCAGCCAGAAAACATCTGAACAAGTTGCGGAATATACGTTATGGTTTTAATACTATCCTTGTGATC
CTCATCTGGCGCATTTTTATTGCAAGATCACAATGGCAAGAAATATCTGGTACTTTGTGGTTAGTCTGT
GTTACAAGTTTTTGTACTTCCGAGCATCCAGCACTATGAGATACTGAAGACCAAGGATTGAGCATTAA
GAACATCTATACATATGGTGATCTAAATGTACAAAATGTAAAATGTATAAGTCATCTCATTTTTGTCAA
GACATTAACCATCTTAGATCGGAGTGTGAAGTAAATTATGGTATATTTTATGTAAATTTAATGTTTA
TGCTCATAAACTTAGTGAACACACTGTGTTATGCCAGCTCAAATCTACAGTAGCCACCAAAACCATGAC
TTAATATTTTGTAGCCCTAGAAGAAAGGGGTGTGCTGAGGACAAGAGTGGGGAATAGGAACACTGACCAG
TATAACTGTGCAATCTGGAACATATTAATTAATAATATGCCTTAACATATAGTGAATTTCTAATTTCT
AATGTTCAAGTGAATGGAAGACATTTATTTGGACAGTAATACTAGCAAAGTTGGTAGATATTTGATTCTT
CATTTTTTGTTTTTTTCATTAGTTGAAGTGGGTTTTAGTTTTGTTTAAATTAATAACCAGCGTATTTTCA
CATCATTCTGTAAGTTAAATGATATCAACATGAAAGAGATGTTATTTTCTTTTCTGATTAAACGCTCT
GATGCATATCATTTTCTATAAGTAATCAGTTGCTTTTAAATCAGAAGGCTATATTATCTAATGACCC
TATTCGATCTAAATGGGTTTGAGAATCCATATCAGCAACATACGTGTTTTTTTGACAGAAAGTGAAACA
AATTCGTAATACTGTTAGTATCAAAAAGAATAGGAATACAGTTTTCTTTCCACATTATGATCAATAA
AAATCTTGTGAGATTGTTTATGTTTGAAGCAGGAGGATTTCTTGAGATTTGATGGAAGTGGGAGTTGGG
AAGGATTCACCATCTTGTGTTCTCCTCCTTTTATAAATTTTATTCATAGGACTTTTAAAGGCTTGTGC
TATCTTCCAGTGAAACTGAAAGTGCATTATTATGGAAGATGTATTGTCAGGTAGTAATAGCATTAA
AAATATACTCGTGTGTAACACATACTAATTTTGACCTTGAAAGATGAATTCCTTCAAGAAAAATAAAT
AATGCTTAAGATAATGTGTACGAAATTAATAAAGGACTTTATTTACATACTACATAAGGTAGCAAACTG
TTGAATGAGTTTGAAGGTATCACTATTTTTTATGCATGTGGTTTAGCTTTAGAAAGAAATGCGTTATA
GAAACAAGTAATAGCAAGAAAATTGATGTATATTTAATGATACATTAATTCCTTTTAAATCAT

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| <b>5' Read Nucleotide Sequence:</b> | <p>&gt;OriGene 5' read for AK090880 unedited</p> <p>TGTATACGACTCTATAGCGGCCCGCAATTCGCACGAGGGATTTTTCCTAATCTATAC<br/>         AAAATATGAATCTGTCCATTTTCTTACAATACAGGATGATGAAAACAATAACTCGTCTT<br/>         CACAAAGCTATGGTGTCTTGAATATTCACAAGTAATTCTTGGGTTTGAATACTGAG<br/>         AATGTCAATATGTTAATGAATCAACTAAACCCTGAAGATAAAAGACCTTCAATATTGAT<br/>         GTACGGCAGTTACATTGGGCAGAATATAGAGAACTACTGCTTGGGAATAAGAAGTAC<br/>         GTATTGAATGAAGAAATGTCTGGCCTCCCTGCAGCCAGAAAACATCTGAACAAGTTGCGG<br/>         AATATACGTTATGGTTTTAATACTATCCTTGATCCTCATCTGGCGCATTTTTATTGCA<br/>         AGATCACAAATGGCAAGAAATATCTGGTACTTTGTGGTTAGTCTGTGTACAAGTTTTTG<br/>         TCATACTTCCGAGCATCCAGCACTATGAGATACTGAAGACCAAGGATTGAGCATTAGAAC<br/>         ATCTATANCATATGGTGATCTAAATGTACAAAATGTAAAATGTATAAGTCATCTCACTTT<br/>         TTGTCAAGACATTAAACCATCTTAGATCGGAGTGTGAAGTAAATTATGGTATATTTATG<br/>         TAACATTNTAATGTTTATGCTCATAAACTTAGTGAACACACTGTGTTATGCCAGCTCAN<br/>         ATCTACAGTAGCCACCAAAACCATGACTTAATATNTTGGCCCTAAAGAAAAAGGGGTG<br/>         TGCTGAGGACCAGAGTGGGGAAATAGGAACCACTGACCAGTATAACTGTGCCATTCTGGA<br/>         ACAATATAATAAAATAATATGCCTTAACATATAGNGAATTTCTATTTCTAAC</p> |
| <b>Restriction Sites:</b>           | NotI-NotI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>ACCN:</b>                        | AK090880                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>OTI Disclaimer:</b>              | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Components:</b>                  | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Reconstitution Method:</b>       | <ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq:</b>                      | <u><a href="#">AK090880.1</a></u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>RefSeq Size:</b>                 | 3076 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq ORF:</b>                  | 3076 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Locus ID:</b>                    | 84188                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Cytogenetics:</b>                | 11p15.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Protein Families:</b>            | Transmembrane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Gene Summary:**

The protein encoded by this gene is required for the reduction of fatty acids to fatty alcohols, a process that is required for the synthesis of monoesters and ether lipids. NADPH is required as a cofactor in this reaction, and 16-18 carbon saturated and unsaturated fatty acids are the preferred substrate. This is a peroxisomal membrane protein, and studies suggest that the N-terminus contains a large catalytic domain located on the outside of the peroxisome, while the C-terminus is exposed to the matrix of the peroxisome. Studies indicate that the regulation of this protein is dependent on plasmalogen levels. Mutations in this gene have been associated with individuals affected by severe intellectual disability, early-onset epilepsy, microcephaly, congenital cataracts, growth retardation, and spasticity (PMID: 25439727). A pseudogene of this gene is located on chromosome 13. [provided by RefSeq, Jan 2015]