

# Recombinant Human Acyl-Coenzyme A dehydrogenase, His tagged

**Cat. No.** ACADS-1829H    **Lot. No.** (See product label)

## SPECIFICATION

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>         | Recombinant human ACADS protein, fused to His-tag at N-terminus, was expressed in <i>E.coli</i> and purified by using conventional chromatography techniques.                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>                  | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Source</b>                   | <i>E.coli</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>              | ACADS (Acyl-Coenzyme A dehydrogenase), also known as SCAD or ACAD3, is a tetrameric mitochondrial flavoprotein, which is a member of the acyl-CoA dehydrogenase family. This enzyme catalyzes the initial step of the mitochondrial fatty acid beta-oxidation pathway. Mutations of ACADS have been associated with fatty acid oxidation defects and metabolic diseases such as short-chain acyl-CoA dehydrogenase deficiency (SCAD deficiency).                                                            |
| <b>Sequences of amino acids</b> | <p>MGSSHHHHH SSGLVPRGSH MLHTIYQSVE LPETHQMLLQ TCRDFAEKEL<br/> FPIAAQVDKE HLFPAQVKK MGGLGLLAM VPEELGGAGL DYLAYAIAME<br/> EISRGCASTG VIMSVNNSLY LGPILKFGSK EQKQAWVTPF TSGDKIGCFA<br/> LSEPGNGSDA GAASTTARAE GDSWVLNGTK AWITNAWEAS AAVVFASTDR<br/> ALQNKISAF LVPMPPTGLT LGKKEDKLG RGSSTANLIF EDCRIPKDSI<br/> LGEPGMGFKI AMQTLDMGRI GIASQALGIA QTALDCAVNY AENRMAFGAP<br/> LTKLQVIQFK LADMALALES ARLLTWRAAM LKDNKKPFIK EAAMAKLAAS<br/> EAATAISHQA IQILGGMGYV TEMPAERHYR DARITEIYEG TSEIQRVLIA<br/> GHLLRSYRS</p> |

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|                         |                                                                                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>             | Liquid. In 20 mM Tris-HCl buffer (pH8.0) containing 1mM DTT 0.1 M NaCl, and 20% glycerol                                                              |
| <b>Molecular Weight</b> | 44.0 kDa (409aa)                                                                                                                                      |
| <b>Purity</b>           | > 95% by SDS - PAGE                                                                                                                                   |
| <b>Concentration</b>    | 0.5 mg/ml (determined by Bradford assay)                                                                                                              |
| <b>Storage</b>          | Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles. |
| <b>Pathways</b>         | Butanoate metabolism; Fatty acid metabolism; Metabolic pathways; Valine, leucine and isoleucine degradation; Metabolism of lipids and lipoproteins.   |

## GENE INFORMATION

|                       |                                                                                                                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>      | ACADS acyl-Coenzyme A dehydrogenase, C-2 to C-3 short chain [ Homo sapiens ]                                                                                                                                                                         |
| <b>Synonyms</b>       | ACADS; SCAD; ACAD3; acyl-Coenzyme A dehydrogenase, C-2 to C-3 short chain; short-chain acyl-CoA dehydrogenase; butyryl-CoA dehydrogenase; unsaturated acyl-CoA reductase; short chain acyl-CoA dehydrogenase; EC 1.3.99.2; Butyryl-CoA dehydrogenase |
| <b>Gene ID</b>        | 35                                                                                                                                                                                                                                                   |
| <b>mRNA Refseq</b>    | NM_000017                                                                                                                                                                                                                                            |
| <b>Protein Refseq</b> | NP_000008                                                                                                                                                                                                                                            |
| <b>MIM</b>            | 606885                                                                                                                                                                                                                                               |

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|------------------------|--------------------------------------------------------------------|
| UniProt ID             | P16219                                                             |
| Chromosome<br>Location | 12q22-qter                                                         |
| Function               | FAD binding; acyl-CoA binding; butyryl-CoA dehydrogenase activity. |

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