



**LD Biopharma, Inc.**  
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## **- PRODUCT DATA SHEET -**

**Name of Product:** Recombinant Human ACAD8 Protein  
**Catalog Number:** hRP-0708  
**Manufacturer:** LD Biopharma, Inc.

### **Introduction**

Human isobutyryl-CoA dehydrogenase (ACAD8) gene encodes a member of the acyl-CoA dehydrogenase family of enzymes that catalyze the dehydrogenation of acyl-CoA derivatives in the metabolism of fatty acids or branch chained amino acids. The encoded protein is a mitochondrial enzyme that functions in catabolism of the branched-chain amino acid valine. Defects in this gene are the cause of isobutyryl-CoA dehydrogenase deficiency.

Full-length human ACAD8 (23-415aa) gene was constructed with 15 N-terminal T7 tag and expressed in *E. coli* as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** ACAD8 (ARC42)  
**Accession Number:** NP\_055199  
**Species:** Human  
**Size:** 40 µg / Vial  
**Composition:** 0.4 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### **Key References**

Nguyen,T.V., et al., *Identification of isobutyryl-CoA dehydrogenase and its deficiency in humans*. Mol. Genet. Metab. 77 (1-2), 68-79 (2002)

Wollmer,M.A., et al. *Association study of cholesterol-related genes in Alzheimer's disease*. Neurogenetics 8 (3), 179-188 (2007)



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Hendrickson, S.L., et al., *Genetic variants in nuclear-encoded mitochondrial genes influence AIDS progression*. PLoS ONE 5 (9), E12862 (2010)

## Applications

1. May be used for in vitro human cell metabolism of fatty acids or branch chained amino acids study with “ProFectin” reagent based intracellular delivery of this protein.
2. May be used as specific substrate protein for kinase and ubiquitin enzymes.
3. As immunogen for specific antibody production.

## Quality Control

1. Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGEFGSLVQTGHRSLTSCIDPSMGLNEEQKEFQKVAFDFAAREMAPNMAEWDQ  
KELFPVDVMRKAAQLGFGGVYIQTDVGGSGLSRLDTSVIFEALATGCTSTTAYISIHNMCAWMI  
DSFGNEEQRHKFCPPLCTMEKFASYCLTEPGSGSDAASLLTSAKKQGDHYILNGSKAFISGAGE  
SDIYVVMCRTGGPGPKGISCIIVVEKGTPLSFGKKEKKVGWNSQPTRAVIFEDCAVPVANRIGS  
EGQGFLIAVRGLNGGRINIASCSLGAahasvILTRDHLNVRKQFGEPLASNQYLQFTLADMATR  
LVAARLMVRNAAVALQEERKDAVALCSMAKLFATDECFAICNQALQMGGYGYLKDYAVQQYVR  
DSRVHQILEGSNEVMRILISRSLLQE