Native Pseudomonas fragi Acyl-CoA Synthetase

Cat. No. NATE-0027

Lot. No. (See product label)

Introduction

Description	The Long chain fatty acyl-CoA synthetase enzyme is a member of the ligase family that activates the breakdown of complex fatty acids. Long chain fatty acyl-CoA synthetase plays a crucial role in intermediary metabolism by catalyzing the formation of fatty acyl-CoA by a two-step process proceeding through an adenylated intermediate. It is an enzyme present in all organisms from bacteria to humans. It catalyzes the pre-step reaction for β-oxidation of fatty acids or can be incorporated in phospholipids.
Applications	Useful in the enzymatic determination of fatty acid when coupled with Acyl-CoA oxidase
Synonyms	EC 6.2.1.3; ACS; acyl-CoA synthetase; fatty acid thiokinase (long chain); acyl-activating enzyme; palmitoyl-CoA synthase; lignoceroyl-CoA synthase; arachidonyl-CoA synthetase; acyl coenzyme A synthetase; acyl-CoA ligase; palmitoyl coenzyme A synthetase; thiokinase; palmitoyl-CoA ligase; acyl-coenzyme A ligase; fatty acid CoA ligase; long-chain fatty acyl coenzyme A synthetase; oleoyl-CoA synthetase; stearoyl-CoA synthetase; long chain fatty acyl-CoA synthetase; long-chain acyl CoA synthetase; fatty acid elongase; LCFA synthetase; pristanoyl-CoA synthetase; ACS3; long-chain acyl-CoA synthetase I; long-chain acyl-CoA synthetase II; fatty acyl-coenzyme A synthetase; long-chain acyl-coenzyme A synthetase; FAA1

Product Information

Source	Pseudomonas fragi
Appearance	White powder
Form	Freeze dried powder
EC Number	EC 6.2.1.3
CAS No.	9013-18-7
Molecular Weight	60 kDa (Sephadex G–150) SDS–PAGE 62 kDa
Activity	2-8 U/mg
Contaminants	Catalase < 1.00%; Glucose oxidase < 0.1%
Isoelectric point	pH 5.2
pH Stability	6.0-8.0 (37°C, 2 hrs)
Optimum pH	7.7
Thermal stability	Stable at 50°C and below (pH 7.5, 10 mins)
Michaelis Constant	Palmitic acid 1.1 × 10-5M; ATP 1.7 × 10-4M; CoA 3.2 × 10-4M
Activators	Triton X–100
Stabilizers	ATP
Unit Definition	One unit is defined as the amount of enzyme which converts 1 umole of fatty acid to

Unit Definition	One unit is defined as the amount of enzyme which converts 1 μmole of fatty acid to acyl–CoA per minute at 37°C under the conditions specified in the assay procedure.

Storage and Shipping Information

Storage	Keep in freezer (-20°C to-80°C), dry place in well-closed containers and away from direct sun light).
Stability	At least one year at-20°C