

PRODUCT INFORMATION



Heptanoyl-Coenzyme A (sodium salt)

Item No. 40459

Formal Name: S-(2-(3-((2R)-4-((((((2R,3S,4R,5R)-5-(6-amino-9H-purin-9-yl)-4-hydroxy-3-(phosphonooxy)tetrahydrofuran-2-yl)methoxy)(hydroxy)phosphoryl)oxy)(hydroxy)phosphoryl)oxy)-2-hydroxy-3,3-dimethylbutanamido)propanamido)ethyl) heptanethioate, sodium salt

Synonyms: C7-CoA, Enanthyl-coenzyme A, Heptanoyl-CoA

MF: $C_{28}H_{48}N_7O_{17}P_3S \cdot XNa$

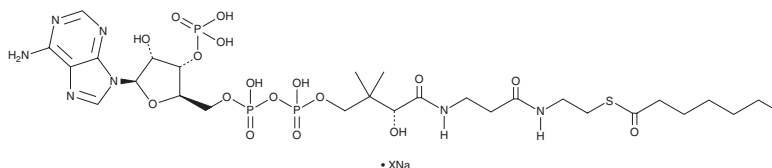
FW: 879.7

Purity: $\geq 90\%$

Supplied as: A solid

Storage: $-20^{\circ}C$

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Heptanoyl-coenzyme A (heptanoyl-CoA) (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the heptanoyl-CoA (sodium salt) in water. We do not recommend storing the aqueous solution for more than one day.

Description

Heptanoyl-CoA is a derivative of CoA (Item Nos. 16147 | 21499 | 21722) that contains the medium-chain fatty acid heptanoic acid (Item No. 33672).¹ It inhibits butyryl-CoA:acetate-CoA transferase isolated from the gut bacteria *P. elsdenii* when used at a concentration of 200 μM . Heptanoyl-CoA levels are increased in primary fibroblasts derived from patients with medium-chain acyl-CoA dehydrogenase (MCAD) deficiency in the presence of heptanoic acid, indicating heptanoyl-CoA formation by short-chain acyl-transferases.² It blocks decreases in infarct volume and improvements in motor function induced by the isoquinoline alkaloid berberine (Item No. 10006427) in a mouse model of ischemic stroke induced by middle cerebral artery occlusion (MCAO) when administered at a dose of 0.4 mg/kg per day.³

References

- Schulman, M. and Valentino, D. Kinetics and catalytic properties of coenzyme A transferase from *Peptostreptococcus elsdenii*. *J. Bacteriol.* **128**(1), 372-378 (1976).
- Karunanidhi, A., Basu, S., Zhao, X.-J., et al. Heptanoic and medium branched-chain fatty acids as anaplerotic treatment for medium chain acyl-CoA dehydrogenase deficiency. *Mol. Genet. Metab.* **140**(3), 107689 (2023).
- Duan, H., Hu, J., Deng, Y., et al. Berberine mediates the production of butyrate to ameliorate cerebral ischemia via the gut microbiota in mice. *Nutrients* **16**(1), 9 (2023).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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