

PRODUCT INFORMATION



Phenylacetyl-Coenzyme A (sodium salt)

Item No. 23550

Formal Name: coenzyme A, S-(benzeneacetate), sodium salt

Synonym: Phenylacetyl-CoA

MF: C₂₉H₄₂N₇O₁₇P₃S • XNa

FW: 885.7

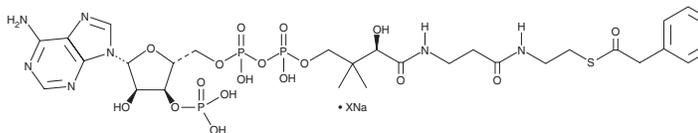
Purity: ≥90%

UV/Vis.: λ_{max}: 259 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years



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

Laboratory Procedures

Phenylacetyl-coenzyme A (CoA) (sodium salt) is supplied as a crystalline solid. Aqueous solutions of phenylacetyl-CoA (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of phenylacetyl-CoA (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Phenylacetyl-CoA is a key intermediate in aerobic catabolism of phenylacetate in bacteria such as *Pseudomonas*, when cultured in minimal media using phenylacetate as the sole carbon source.¹ It is a precursor in the synthesis of the antibiotic penicillin G (Item No. 21615) found in industrial strains of *P. chrysogenum*. Phenylacetyl-CoA also acts as an effector molecule of the TetR family transcriptional repressor PaaR in *T. thermophilus* and the GntR family transcriptional regulator PaaX in *E. coli* and *Pseudomonas*, binding to each protein to induce derepression of various genes.²

References

1. Miñambres, B., Martínex-Blanco, H., Olivera, E.R., *et al.* Molecular cloning and expression in different microbes of the DNA encoding *Pseudomonas putida* U phenylacetyl-CoA ligase. Use of this gene to improve the rate of benzylpenicillin biosynthesis in *Penicillium chrysogenum*. *J. Biol. Chem.* **271**(52), 33531-33538 (1996).
2. Sakamoto, K., Agari, Y., Kuramitsu, S., *et al.* Phenylacetyl coenzyme A is an effector molecule of the TetR family transcriptional repressor PaaR from *Thermus thermophilus* HB8. *J. Bacteriol.* **193**(17), 4388-4395 (2011).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 09/07/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM