

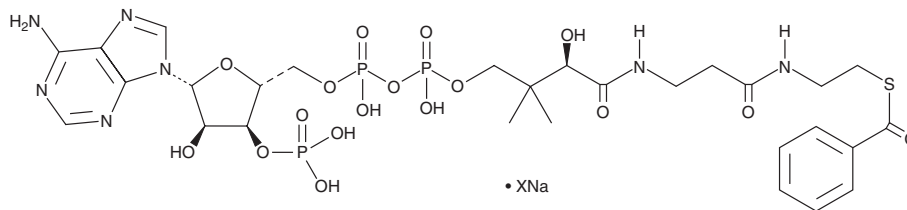
PRODUCT INFORMATION



Benzoyl-Coenzyme A (sodium salt)

Item No. 27859

Formal Name: S-benzoate coenzyme A, sodium salt
Synonym: Benzoyl-CoA
MF: C₂₈H₄₀N₇O₁₇P₃S • XNa
FW: 871.6
Purity: ≥95%
UV/Vis.: λ_{max}: 261 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Benzoyl-coenzyme A (benzoyl-CoA) (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the benzoyl-CoA (sodium salt) in water. The solubility of benzoyl-CoA (sodium salt) in water is approximately 50 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Benzoyl-CoA is an intermediate in the microbial metabolism of aromatic compounds.^{1,2} It can be produced via anaerobic metabolism of benzoate, toluene, and phenylalanine, among others, in the environment as well as the gut microbiome.¹ In proteobacteria, conversion of benzoate to benzoyl-CoA by a benzoate-CoA ligase can occur under both aerobic and anaerobic conditions.² Benzoyl-CoA is also a precursor in the biosynthesis of the antibiotic enterocin (Item No. 20592) in *Salinospora*.³ Benzoyl-CoA has been used as a substrate to measure the enzyme kinetics of human recombinant glycine N-acyltransferase (GLYAT), which catalyzes the formation of hippuric acid from benzoyl-CoA and glycine.⁴

References

1. Porter, A.W. and Young, L.Y. Benzoyl-CoA, a universal biomarker for anaerobic degradation of aromatic compounds. *Adv. Appl. Microbiol.* **88**, 167-203 (2014).
2. Valderrama, J.A., Durante-Rodríguez, G., Blázquez, B., et al. Bacterial degradation of benzoate: Cross-regulation between aerobic and anaerobic pathways. *J. Biol. Chem.* **287**(13), 10494-10508 (2012).
3. Thonburg, C.K., Wortas-Strom, S., Nosrati, M., et al. Kinetically and crystallographically guided mutations of a benzoate CoA ligase (BadA) elucidate mechanism and expand substrate permissivity. *Biochemistry* **54**(40), 6230-6242 (2015).
4. van der Sluis, R., Ungerer, V., Nortje, C., et al. New insights into the catalytic mechanism of human glycine N-acyltransferase. *J. Biochem. Mol. Toxicol.* **31**(11), e21963 (2017).

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, 11/30/2022

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