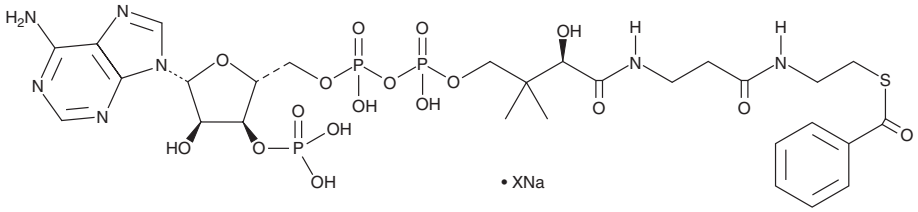
PRODUCT INFORMATION

Benzoyl-Coenzyme A (sodium salt)

Item No. 27859

Formal Name:	S-benzoate coenzyme A, sodium salt
Synonym:	Benzoyl-CoA
MF:	$C_{28}H_{40}N_7O_{17}P_3S$ • 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).

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