

PRODUCT INFORMATION



Arachidonoyl-L-carnitine (chloride)

Item No. 9000939

CAS Registry No.: 2133455-98-6
Formal Name: (R)-3-carboxy-2-((5Z,8Z,11Z,14Z)-
icosa-5,8,11,14-tetraenoxy)-N,N,N-
trimethylpropan-1-aminium, monochloride
Synonym: CAR 20:4, C20:4 Carnitine,
L-Arachidonoylcarnitine,
L-Carnitine arachidonoyl ester

MF: C₂₇H₄₆NO₄ • Cl

FW: 484.1

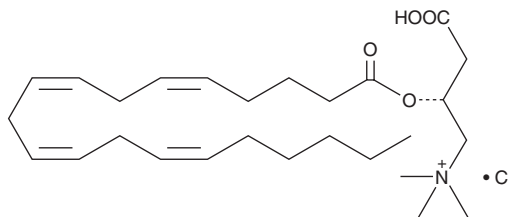
Purity: ≥95%

Supplied as: A solution in chloroform

Storage: -80°C

Stability: ≥1 year

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



Laboratory Procedures

Arachidonoyl-L-carnitine (chloride) is supplied as a solution in chloroform. To change the solvent, simply evaporate the chloroform under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of arachidonoyl-L-carnitine (chloride) in these solvents is approximately 30, 10, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of arachidonoyl-L-carnitine (chloride) is needed, it can be prepared by evaporating the chloroform and directly dissolving the neat oil in aqueous buffers. The solubility of arachidonoyl-L-carnitine (chloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Carnitine facilitates the transport of fatty acids into the mitochondria to be used in fatty acid metabolism. It does so by accepting acyl groups from fatty acids complexed with coenzyme A, which yields esterified carnitine or acylcarnitines that enable the transport of fatty acyl groups into the inner mitochondrial matrix. β -Oxidation of fatty acids in mitochondria is inhibited by uncoupling conditions, thus changes in circulating levels of various acylcarnitines have been used to identify alterations in metabolic state.^{1,2} Arachidonoyl-L-carnitine is an acylcarnitine formed from carnitine conjugated to arachidonic acid (Item No. 90010).

References

1. Osmundsen, H., Cervenka, J., and Bremer, J. A role for 2,4-enoyl-CoA reductase in mitochondrial β -oxidation of polyunsaturated fatty acids. Effects of treatment with clofibrate on oxidation of polyunsaturated acylcarnitines by isolated rat liver mitochondria. *Biochem. J.* **208(3)**, 749-757 (1982).
2. Sampey, B.P., Freerman, A.J., Zhang, J., *et al.* Metabolomic profiling reveals mitochondrial-derived lipid biomarkers that drive obesity-associated inflammation. *PLoS One* **7(6)**, e38812 (2012).

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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