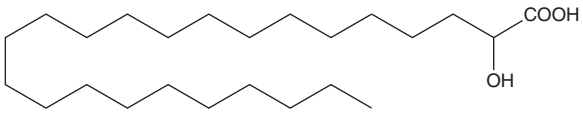
PRODUCT INFORMATION

2-hydroxy Lignoceric Acid

Item No. 22680

CAS Registry No.: 544-57-0
Formal Name: 2-hydroxy-tetracosanoic acid
Synonyms: Cerebronic Acid, FA 24:0;O
MF: $C_{24}H_{48}O_3$
FW: 384.6
Purity: ≥98%
Supplied as: A 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

2-hydroxy Lignoceric acid is supplied as a solid. A stock solution may be made by dissolving the 2-hydroxy lignoceric acid in the solvent of choice. 2-hydroxy Lignoceric acid is soluble in a 5:1 solution of chloroform:methanol.

Description

2-hydroxy Lignoceric acid is an α-hydroxy very long chain fatty acid that is normally present in the mammalian nervous system.[1] In the brain, 2-hydroxy lignoceric acid is derived from lignoceric acid (Item No. 13353) and further converted to ceramides and cerebrosides during the process of nerve sheath myelination.[1-3] 2-hydroxy Lignoceric acid is produced by the α-oxidation of lignoceric acid in the peroxisome and defects in this pathway are associated with disorders such as Zellweger syndrome.[4,5]

References

1. Hoshi, M. and Kishimoto, Y. Synthesis of cerebronic acid from lignoceric acid by rat brain preparation. Some properties and distribution of the α-hydroxylation system. *J. Biol. Chem.* **248(11)**, 4123-4130 (1973).
2. Bourre, J.M., Paturneau-Jouas, M.Y., Daudu, O.L., *et al.* Lignoceric acid biosynthesis in the developing brain. Activities of mitochondrial acetyl-CoA-dependent synthesis and microsomal malonyl-CoA chain-elongating system in relation to myelination. *Eur. J. Biochem.* **72(1)**, 41-47 (1977).
3. Murad, S. and Kishimoto, Y. α hydroxylation of lignoceric acid to cerebronic acid during brain development. Diminished hydroxylase activity in myelin-deficient mouse mutants. *J. Biol. Chem.* **250(15)**, 5841-5846 (1975).
4. Singh, I., Moser, A.E., Goldfischer, S., *et al.* Lignoceric acid is oxidized in the peroxisome: Implications for the Zellweger cerebro-hepato-renal syndrome andadrenoleukodystrophy. *Proc. Natl. Acad. Sci. USA* **81**, 4203-4207 (1984).
5. Jung, K., Reszka, R., Kamlage, B., *et al.* Tissue metabolite profiling identifies differentiating and prognostic biomarkers for prostate carcinoma. *Int. J. Cancer* **133(12)**, 2914-2924 (2013).

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