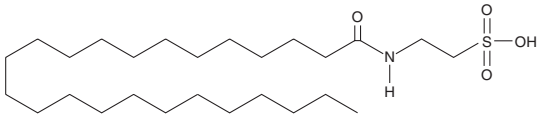
PRODUCT INFORMATION

N-Lignoceroyl Taurine

Item No. 10007286

CAS Registry No.:	807370-75-8
Formal Name:	2-[(1-oxotetracosyl)amino]-ethanesulfonic acid
MF:	$C_{26}H_{53}NO_4S$
FW:	475.8
Purity:	≥98%
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

N-lignoceroyl taurine is supplied as a crystalline solid. A stock solution may be made by dissolving the N-lignoceroyl taurine in the solvent of choice, which should be purged with an inert gas. N-lignoceroyl taurine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of N-lignoceroyl taurine in these solvents is approximately 0.15, 5, and 2.5 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. Organic solvent-free aqueous solutions of N-lignoceroyl taurine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-lignoceroyl taurine in PBS (pH 7.2) is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Several different arachidonoyl amino acid conjugates, including N-arachidonoyl dopamine and N-arachidonoyl-L-serine, have been isolated and characterized from bovine brain.[1] N-lignoceroyl taurine is one of several novel taurine-conjugated fatty acids discovered during mass spectrometry lipidomic analysis of brain and spinal cord from wild-type and fatty acid amide hydrolase (FAAH) knockout mice.[2] The levels of N-lignoceroyl taurine were elevated 23-26 fold in $FAAH^{-/-}$ mice compared to wild-type mice, indicating that FAAH utilizes N-lignoceroyl taurine as a substrate. However, *in vitro* experiments with purified FAAH indicate N-lignoceroyl taurine is hydrolyzed 2,000 times more slowly by FAAH compared to oleoyl ethanolamide.[2] N-acyl taurines bearing polyunsaturated acyl chains can activate members of the transient receptor potential (TRP) family of calcium channels, including TRPV1 and TRPV4.[3]

References

1. Huang, S.M., Bisogno, T., Petros, T.J., *et al.* Identification of a new class of molecules, the arachidonyl amino acids, and characterization of one member that inhibits pain. *J. Biol. Chem.* **276(46)**, 42639-42644 (2001).
2. Saghatelian, A., Trauger, S.A., Want, E.J., *et al.* Assignment of endogenous substrates to enzymes by global metabolite profiling. *Biochemistry* **43(45)**, 14332-14339 (2004).
3. Saghatelian, A., McKinney, M.K., Bandell, M., *et al.* A FAAH-regulated class of N-acyl taurines that activates TRP ion channels. *Biochemistry* **45(30)**, 9007-9015 (2006).

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