

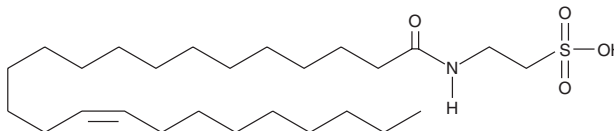
PRODUCT INFORMATION



N-Nervonoyl Taurine

Item No. 10007287

CAS Registry No.: 1942003-30-6
Formal Name: 2-[(1-oxo-15Z-tetracosenyl) amino]-ethanesulfonic acid
MF: C₂₆H₅₁NO₄S
FW: 473.8
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-Nervonoyl taurine is supplied as a crystalline solid. A stock solution may be made by dissolving the N-nervonoyl taurine in the solvent of choice, which should be purged with an inert gas. N-Nervonoyl taurine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of N-nervonoyl taurine in these solvents is approximately 10 and 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-nervonoyl taurine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N-nervonoyl taurine in PBS (pH 7.2) is approximately 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-Nervonoyl 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-nervonoyl taurine were elevated ~25 fold in FAAH^{-/-} mice compared to wild-type mice, indicating that FAAH utilizes N-nervonoyl taurine as a substrate. However, *in vitro* experiments with purified FAAH indicate that related N-fatty acyl taurines and ethanolamines of similar chain length are hydrolyzed 2,000-50,000 times more slowly by FAAH compared to oleoyl ethanolamide.² The biological function of the taurine fatty acids class of molecules, as well as their relevance to endocannabinoid signaling, remains to be determined. 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 arachidonoyl 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).

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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