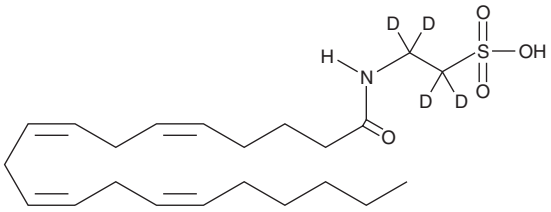
PRODUCT INFORMATION

N-Arachidonoyl Taurine-d_4

Item No. 26323

Formal Name:	2-((5Z,8Z,11Z,14Z)-icosa-5,8,11,14-tetraenamido)ethane-1-sulfonic-1,1,2,2-d_4 acid
MF:	$C_{22}H_{33}D_4NO_4S$
FW:	415.6
Chemical Purity:	≥95% (N-Arachidonoyl Taurine)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

N-Arachidonoyl taurine-d_4 is intended for use as an internal standard for the quantification of N-arachidonoyl taurine (Item No. 10005537) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

N-Arachidonoyl taurine-d_4 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of N-arachidonoyl taurine-d_4 in these solvents is approximately 20 and 10 mg/ml, respectively.

Description

N-Arachidonoyl taurine is an arachidonoyl amino acid.[1] It is oxygenated by 12(S)- and 15(S)-lipoxygenase and is converted to 12-HETE-taurine (12-HETE-T) in murine resident peritoneal macrophages.[2] N-Arachidonoyl taurine is an activator of the transient receptor potential vanilloid (TRPV) channels TRPV1 and TRPV4 (EC_{50}s = 28 and 21 µM, respectively).[1] It increases calcium flux in HIT-T15 pancreatic β-cells and INS-1 rat islet cells when used at a concentration of 10 µM and increases insulin secretion from 832/13 INS-1 pancreatic β-cells.[3] The levels of N-arachidonoyl taurine are changed in mouse brain following administration of Δ^9-tetrahydrocannabinol (Δ^9 -THC).[4]

References

1. 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).
2. Turman, M.V., Kingsley, P.J., Rouzer, C.A., *et al.* Oxidative metabolism of a fatty acid amide hydrolase-regulated lipid, arachidonoyltaurine. *Biochemistry* **47(12)**, 3917-3925 (2008).
3. Waluk, D.P., Vielfort, K., Derakhshan, S., *et al.* N-Acyl taurines trigger insulin secretion by increasing calcium flux in pancreatic β-cells. *Biochem. Biophys. Res. Commun.* **430(1)**, 54-59 (2013).
4. Leishman, E., Murphy, M., Mackie, K., *et al.* Δ^9-Tetrahydrocannabinol changes the brain lipidome and transcriptome differentially in the adolescent and the adult. *Biochim. Biophys. Acta. Mol. Cell Biol. Lipids* **1863(5)**, 479-492 (2018).

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