

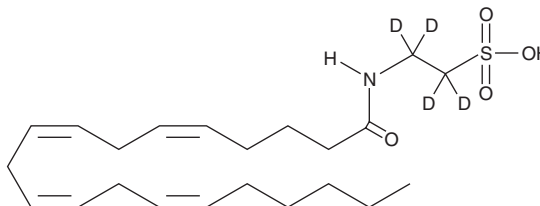
# PRODUCT INFORMATION



## N-Arachidonoyl Taurine-d<sub>4</sub>

Item No. 26323

**Formal Name:** 2-((5Z,8Z,11Z,14Z)-icosa-5,8,11,14-tetraenamido)ethane-1-sulfonic-1,1,2,2-d<sub>4</sub> acid  
**MF:** C<sub>22</sub>H<sub>33</sub>D<sub>4</sub>NO<sub>4</sub>S  
**FW:** 415.6  
**Chemical Purity:** ≥95% (N-Arachidonoyl Taurine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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<sub>4</sub> 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<sub>4</sub> 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<sub>4</sub> in these solvents is approximately 20 and 10 mg/ml, respectively.

### Description

N-Arachidonoyl taurine is an arachidonoyl amino acid.<sup>1</sup> 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.<sup>2</sup> N-Arachidonoyl taurine is an activator of the transient receptor potential vanilloid (TRPV) channels TRPV1 and TRPV4 (EC<sub>50</sub>s = 28 and 21 μM, respectively).<sup>1</sup> 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.<sup>3</sup> The levels of N-arachidonoyl taurine are changed in mouse brain following administration of Δ<sup>9</sup>-tetrahydrocannabinol (Δ<sup>9</sup>-THC).<sup>4</sup>

### 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<sup>9</sup>-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).

#### 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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