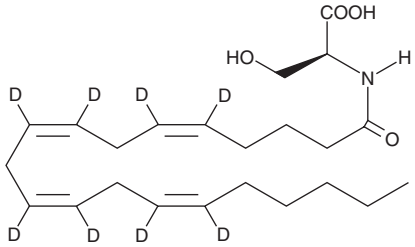
PRODUCT INFORMATION

N-Arachidonoyl-L-Serine-d_8

Item No. 10007428

CAS Registry No.: 2699607-45-7
Formal Name: N-[1-oxo-5Z,8Z,11Z,14Z-eicosatetraenyl]-L-serine-5,6,8,9,11,12,14,15-d_8
Synonym: ARA-S-d_8
MF: $C_{23}H_{29}D_8NO_4$
FW: 399.6
Chemical Purity: ≥98% (N-Arachidonoyl-L-Serine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_8); ≤1% d_0



Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥1 year

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

Laboratory Procedures

N-Arachidonoyl-L-serine-d_8 (ARA-S-d_8) is intended for use as an internal standard for the quantification of ARA-S (Item No. 10005455) 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).

ARA-S-d_8 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 ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of ARA-S-d_8 in ethanol is approximately 30 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Description

Arachidonoyl amides of both amino acids and neurotransmitters such as dopamine have been previously reported in the literature.[1] ARA-S is one such recently isolated endocannabinoid with an unusual activity profile. ARA-S does not bind to CB_1 and CB_2 receptors or vanilloid receptor 1. Like cannabidiol (Item No. 90080), ARA-S (5 mg/kg) antagonizes the hypotensive effects of a 10 mg/kg IV bolus of abnormal cannabidiol (Abn-CBD, CAY10429 Item No. 10004259) in an anesthetized rat blood pressure model.[2] However, similar to Abn-CBD, ARA-S relaxes isolated rat mesenteric arteries and abdominal aorta, as well as increases phosphorylation of Akt and MAPK in HUVEC.[3] The precise mechanisms of action by ARA-S and Abn-DBD in various vascular preparations appears to be different and requires further investigation.

References

1. Bisogno, T., Melck, D., Bobrov, M.Y., *et al.* N-acyl-dopamines: Novel synthetic CB_1 cannabinoid-receptor ligands and inhibitors of anandamide inactivation with cannabimimetic activity *in vitro* and *in vivo*. *Biochem. J.* **351**, 817-824 (2001).
2. Milman, G., Maor, Y., Horowitz, M., *et al.* Arachidonoyl-serine, an endocannabinoid-like bioactive constituent of rat brain. *14th Annual Symposium on the Cannabinoids* **133** (2004).
3. Milman, G., Maor, Y., Abu-Lafi, S., *et al.* N-arachidonoyl L-serine, an endocannabinoid-like brain constituent with vasodilatory properties. *Proc. Natl. Acad. Sci. USA* **103(7)**, 2428-2433 (2006).

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