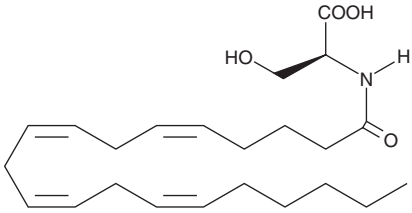
PRODUCT INFORMATION

N-Arachidonoyl-L-Serine

Item No. 10005455

CAS Registry No.:	187224-29-9
Formal Name:	N-[1-oxo-5Z,8Z,11Z,14Z-eicosatetraenyl]-L-serine
Synonym:	ARA-S
MF:	$C_{23}H_{37}NO_4$
FW:	391.5
Purity:	≥98%
Supplied as:	A 10 mg/ml 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-L-serine (ARA-S) 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 ARA-S in these solvents is approximately 20 mg/ml.

ARA-S is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of ARA-S should be diluted with the aqueous buffer of choice. The solubility of ARA-S in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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 central cannabinoid (CB_1) and peripheral cannabinoid (CB_2) receptors or vanilloid receptor 1 (VR1). Like cannabidiol, ARA-S (5 mg/kg) antagonizes the hypotensive effects of a 10 mg/kg IV bolus of abnormal cannabidiol (Abn-CBD) 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 mitogen-activated protein kinase (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(Pt 3)**, 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