

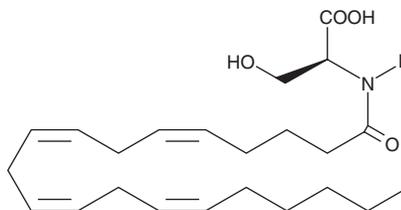
PRODUCT INFORMATION



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: C₂₃H₃₇NO₄
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 (CB₁) and peripheral cannabinoid (CB₂) 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-CBD 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 CB₁ 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).

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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