

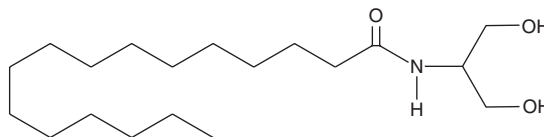
PRODUCT INFORMATION



Palmitoyl Serinol

Item No. 62175

CAS Registry No.: 126127-31-9
Formal Name: N-[2-hydroxy-1-(hydroxymethyl)ethyl]-hexadecanamide
Synonyms: C16-Serinol, S16
MF: C₁₉H₃₉NO₃
FW: 329.5
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Palmitoyl serinol is supplied as a crystalline solid. A stock solution may be made by dissolving the palmitoyl serinol in the solvent of choice, which should be purged with an inert gas. Palmitoyl serinol is slightly soluble in dimethyl formamide.

Description

Palmitoyl serinol is a derivative of 2-palmitoyl glycerol (2-PG; Item No. 17882), an endogenous fatty acid ester that potentiates the signaling and *in vivo* activity induced by the endocannabinoid 2-arachidonoyl glycerol (2-AG; Item No. 62160).¹⁻³ It is a metabolite of human commensal bacteria and an agonist of GPR119, increasing cAMP levels in HEK293 cells expressing GPR119 (EC₅₀ = 9 μM).⁴ Palmitoyl serinol (25 μM) reduces IL-4-induced decreases in the levels of long-chain fatty acid-containing ceramides in IL-4-stimulated HaCaT keratinocytes, an effect that can be blocked by the cannabinoid receptor 1 (CB₁) antagonist AM-251.⁵ It also binds to PKCζ and induces apoptosis in F-11 neuroblastoma cells, an effect that can be blocked by the PKCζ inhibitor Gö 6983 (Item No. 13311).⁶

References

1. Ben-Shabat, S., Frider, E., Sheskin, T., *et al.* An entourage effect: Inactive endogenous fatty acid glycerol esters enhance 2-arachidonoyl-glycerol cannabinoid activity. *Eur. J. Pharmacol.* **353(1)**, 23-31 (1998).
2. Dinh, T.P., Freund, T.F., and Piomelli, D. A role for monoglyceride lipase in 2-arachidonoylglycerol inactivation. *Chem. Phys. Lipids* **121(1-2)**, 149-158 (2002).
3. Fowler, C.J., Jonsson, K.-O., and Tiger, G. Fatty acid amide hydrolase: Biochemistry, pharmacology, and therapeutic possibilities for an enzyme hydrolyzing anandamide, 2-arachidonoylglycerol, palmitoylethanolamide, and oleamide. *Biochem. Pharmacol.* **62(5)**, 517-526 (2001).
4. Cohen, L.J., Esterhazy, D., Kim, S.H., *et al.* Commensal bacteria make GPCR ligands that mimic human signalling molecules. *Nature* **549(7670)**, 48-53 (2017).
5. Shin, K.-O., Kim, S., Park, B.D., *et al.* N-Palmitoyl serinol stimulates ceramide production through a CB1-dependent mechanism in *in vitro* model of skin inflammation. *Int. J. Mol. Sci.* **22(15)**, 8302 (2021).
6. Bieberich, E., Kawaguchi, T., and Yu, R.K. N-acylated serinol is a novel ceramide mimic inducing apoptosis in neuroblastoma cells. *J. Biol. Chem.* **275(1)**, 177-181 (2000).

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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