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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Product Information



9-PAHSA-d₄ Item No. 17724

Formal Name: 9-[(1-oxohexadecyl)oxy-7,7',8,8'-d₄]-
octadecanoic acid

MF: C₃₄H₆₂D₄O₄

FW: 542.9

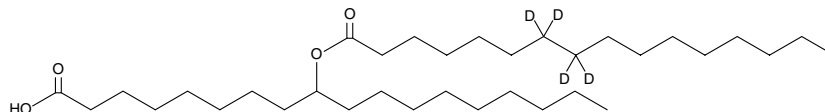
Chemical Purity: ≥95% 9-PAHSA

Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀

Stability: ≥1 year at -20°C

Supplied as: A solution in methyl acetate



Laboratory Procedures

9-PAHSA-d₄ contains four deuterium atoms at the 7, 7', 8, and 8' positions. It is intended for use as an internal standard for the quantification of 9-PAHSA (Item No. 17037) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 9-PAHSA-d₄ be stored as supplied at -20°C. It should be stable for at least one year.

9-PAHSA-d₄ is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate 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 9-PAHSA-d₄ in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

9-PAHSA-d₄ is used as an internal standard for the quantification of 9-PAHSA by stable isotope dilution 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). *NOTE: Please be advised that this product will elute 3-5 minutes sooner than its corresponding non-deuterated standard when using the analytical method described by Yore, M.M et al.*¹

Branched fatty acid esters of hydroxy fatty acids (FAHFAs) are newly identified endogenous lipids regulated by fasting and high-fat feeding and associated with insulin sensitivity.¹ Structurally, these esters are comprised of a C-16 or C-18 fatty acid (*e.g.*, palmitoleic, palmitic, oleic, or stearic acid) linked to a hydroxylated C-16 or C-18 lipid. 9-PAHSA is a FAHFA in which palmitic acid is esterified to 9-hydroxy stearic acid. PAHSAs are the most abundant forms of FAHFA in serum as well as white and brown adipose tissues of glucose tolerant AG4OX mice, which overexpress Glut4 specifically in adipose tissue.¹ 9-PAHSA is the predominant isomer of PAHSA in wild type and AG4OX mice.¹ It is found in humans and is reduced in the serum and adipose tissues of insulin-resistant humans.¹ 9-PAHSA improves glucose tolerance, stimulates insulin secretion, and has anti-inflammatory effects in mice.¹

Reference

1. Yore, M.M., Syed, I., Moraes-Vieira, P.M., *et al.* Discovery of a class of endogenous mammalian lipids with anti-diabetic and anti-inflammatory effects. *Cell* **159**(2), 318-332 (2014).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/17724

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

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This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

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