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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Product Information



12-PAHSA-d₃₁

Item No. 17194

Formal Name: 12-[(1-oxohexadecyl)oxy]-octadecanoic-2,2',3,3',4,4',5,5',6,6',7,7',8,8',9,9',10,10',11,11',12,12',13,13',14,14',15,15',16,16,16-d₃₁ acid

MF: C₃₄H₃₅D₃₁O₄

FW: 570.1

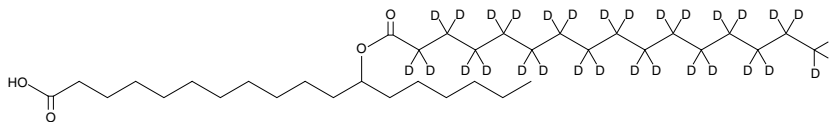
Chemical Purity: ≥95% 12-PAHSA

Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃₁); ≤1% d₀

Stability: ≥1 year at -20°C

Supplied as: A solution in methyl acetate



Laboratory Procedures

12-PAHSA-d₃₁ contains 31 deuterium atoms at the 2, 2', 3, 3', 4, 4', 5, 5', 6, 6', 7, 7', 8, 8', 9, 9', 10, 10', 11, 11', 12, 12', 13, 13', 14, 14', 15, 15', 16, 16, and 16 positions. It is intended for use as an internal standard for the quantification of 12-PAHSA (Item No. 17107) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 12-PAHSA-d₃₁ be stored as supplied at -20°C. It should be stable for at least one year.

12-PAHSA-d₃₁ 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 12-PAHSA-d₃₁ in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

12-PAHSA-d₃₁ is used as an internal standard for the quantification of 12-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 either a C-16 or C-18 hydroxy substituent. 12-PAHSA is a FAHFA in which palmitic acid is esterified at the 12th carbon of hydroxy stearic acid. Among the FAHFA family members, PAHSAs are the most abundant in the adipose tissue of glucose tolerant AG4OX mice, which overexpress the Glut4 glucose transporter specifically in adipose tissue.¹ 12-PAHSA is present at 2- to 3-fold higher levels in adipose tissue of AG4OX mice compared to wild type mice.¹ Levels of 12-PAHSA are also higher in fasted wild-type mice compared to fed mice and are reduced upon high-fat diet-induced obesity in insulin-resistant 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/17194

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.

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