

PRODUCT INFORMATION



9-PAHSA $^{13}\text{C}_4$
Item No. 17725

CAS Registry No.: 2748638-71-1

Formal Name: 9-[(1-oxohexadecyl-1,2,3,4- $^{13}\text{C}_4$)oxy]-octadecanoic acid

MF: $\text{C}_{30}[^{13}\text{C}]_4\text{H}_{66}\text{O}_4$

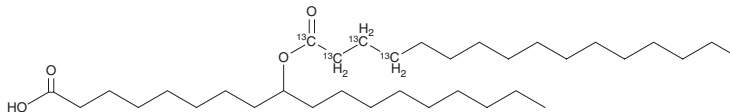
FW: 542.9

Purity: $\geq 95\%$

Supplied as: A 1 mg/ml solution in methyl acetate

Storage: -20°C

Stability: ≥ 4 years



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

Laboratory Procedures

9-PAHSA $^{13}\text{C}_4$ 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 $^{13}\text{C}_4$ in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

9-PAHSA $^{13}\text{C}_4$ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, evaporate the methyl acetate and dissolve in ethanol. The ethanoic solution of 9-PAHSA $^{13}\text{C}_4$ should be diluted with the aqueous buffer of choice. 9-PAHSA $^{13}\text{C}_4$ has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

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 (Item No. 17037) 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 9-PAHSA $^{13}\text{C}_4$ is an isotopically enriched form of this polyunsaturated fatty acid with carbon-13 occurring at positions 1, 2, 3, and 4. It is intended for use as an internal standard for the quantification of 9-PAHSA by NMR or GC- or LC-mass spectrometry.

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).

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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