

# PRODUCT INFORMATION



## 10(S)-PAHSA

Item No. 21419

CAS Registry No.: 2270843-65-5

Formal Name: (10S)-10-[(1-oxohexadecyl)oxy]-octadecanoic acid

MF: C<sub>34</sub>H<sub>66</sub>O<sub>4</sub>

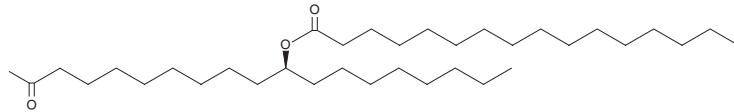
FW: 538.9

Purity: ≥95%

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

Storage: -20°C

Stability: ≥2 years



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

### Laboratory Procedures

10(S)-PAHSA 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 10(S)-PAHSA in ethanol and DMF is approximately 20 mg/ml and approximately 15 mg/ml in DMSO.

10(S)-PAHSA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 10(S)-PAHSA should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 10(S)-PAHSA 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

10(S)-PAHSA is a stereoisomer of 10-PAHSA (Item No. 19973), an endogenous lipid that belongs to a collection of branched fatty acid esters of hydroxy fatty acids (FAHFA). It is a FAHFA in which palmitic acid (Item No. 10006627) is esterified to 10-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.<sup>1,2</sup> A study using synthesized (R)- and (S)- stereoisomers of 9-PAHSA (Item No. 17037) reported that the 9(R)-PAHSA (Item No. 18022) is the predominant form that accumulates in adipose tissues *in vivo*.<sup>3</sup> Also, cell lines favor the production of 9(R)-PAHSA and carboxyl ester lipase selectively hydrolyzes 9(S)-PAHSA (Item No. 18023).<sup>3</sup>

### References

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).
2. Moraes-Vieira, P.M., Saghatelyan, A., and Kahn, B.B. GLUT4 Expression in adipocytes regulates *de novo* lipogenesis and levels of a novel class of lipids with antidiabetic and anti-inflammatory effects. *Diabetes* **65**(7), 1808-1815 (2016).
3. Nelson, A.T., Kolar, M.J., Chu, Q., et al. Stereochemistry of endogenous palmitic acid ester of 9-hydroxystearic acid and relevance of absolute configuration to regulation. *J. Am. Chem. Soc.* **139**(13), 4943-4947 (2017).

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#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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