

Product Data Sheet

Product Name: cis-6-Hexadecenoic Acid-d19

Cat. No.: GC45410

Chemical Properties

Cas. No. 2692623-89-3

[illegible]

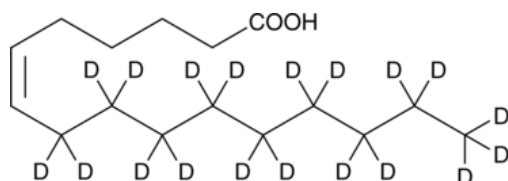
Formula	C16H11D19O2	M.Wt	273.5
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Solubility	Ethanol: soluble	Storage	Store at -20°C
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General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
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Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.
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Structure



Background

cis-6-Hexadecenoic acid-d19 is intended for use as an internal standard for the quantification of cis-6-hexadecenoic acid by GC- or LC-MS. cis-6-Hexadecenoic acid is a monounsaturated fatty acid and is one of the primary fatty acids in human skin.¹ cis-6-Hexadecenoic acid levels are increased in isolated sebum from the face and back of patients with acne.² In contrast, levels are decreased in the non-lesional skin and isolated sebum of atopic dermatitis patients, which correlates with an increase in *S. aureus* in the sebum.¹ It is active against *S. aureus* in vitro when used at a concentration of 5 µg/ml at pH 5.5.³ cis-6-Hexadecenoic acid disrupts membrane integrity, the proton motive force, increases membrane fluidity, and inhibits the electron transport chain in *S. aureus*.

References

1. Takigawa, H., Nakagawa, H., Kuzukawa, M., et al. Deficient production of hexadecenoic acid in the skin is associated in part with the vulnerability of atopic dermatitis patients to colonization by *Staphylococcus aureus*. *Dermatology* 211(3), 240-248 (2005).

Caution: Product has not been fully validated for medical applications. For research use only.

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2. Li, W.-H., Zhang, Q., Flach, C.R., et al. In vitro modeling of unsaturated free fatty acid-mediated tissue impairments seen in acne lesions. Arch. Dermatol. Res. 309(7), 529-540 (2017).
3. Cartron, M.L., England, S.R., Chiriac, A.I., et al. Bactericidal activity of the human skin fatty acid cis-6-hexadecanoic acid on Staphylococcus aureus. Antimicrob. Agents Chemother. 58(7), 3599-3609 (2014).

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