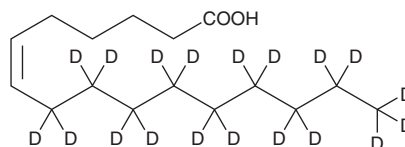


PRODUCT INFORMATION



cis-6-Hexadecenoic Acid-d₁₉ Item No. 28227

CAS Registry No.: 2692623-89-3
Formal Name: 6*Z*-hexadecenoic-8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-d₁₉ acid
Synonyms: C16:1(6*Z*)-d₁₉, C16:1Δ6-d₁₉, C16:1ω10c-d₁₉, FA 16:1-d₁₉, Sapienic Acid-d₁₉
MF: C₁₆H₁₁D₁₉O₂
FW: 273.5
Chemical Purity: ≥98% (*cis*-6-Hexadecenoic Acid)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₉); ≤1% d₀
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

cis-6-Hexadecenoic acid-d₁₉ is intended for use as an internal standard for the quantification of *cis*-6-hexadecenoic acid (Item No. 9001845) by GC- or LC-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).

Description

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).
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).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM