

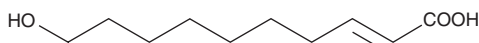
PRODUCT INFORMATION



10-HDA

Item No. 10976

CAS Registry No.: 14113-05-4
Formal Name: 10-hydroxy-2E-decenoic acid
Synonym: FA 10:1;O
MF: C₁₀H₁₈O₃
FW: 186.3
Purity: ≥98%
UV/Vis.: λ_{max}: 209 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

10-HDA is supplied as a crystalline solid. A stock solution may be made by dissolving the 10-HDA in the solvent of choice, which should be purged with an inert gas. 10-HDA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 10-HDA in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

10-HDA is an unsaturated fatty acid found in royal jelly produced from the hypopharyngeal and mandibular gland secretions of honeybees.¹ 10-HDA has longevity-promoting effects in *C. elegans* at a concentration of 25 μM.² It down-regulates matrix metalloproteinases (MMPs) in rheumatoid arthritis synovial fibroblasts at a concentration of 1.25 nM and inhibits VEGF-induced angiogenesis in HUVECs at 500 μM.^{3,4} 10-HDA also facilitates differentiation of neurons from neural stem/progenitor cells and promotes collagen production by skin fibroblasts at concentrations of 100 μM and 1.5 mM, respectively.^{5,6}

References

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2. Honda, Y., Fujita, Y., Maruyama, H., *et al.* Lifespan-extending effects of royal jelly and its related substances on the nematode *Caenorhabditis elegans*. *PLoS One* **6(8)**, 1-10 (2011).
3. Wang, J., Ruan, J., Li, C.-Y., *et al.* Connective tissue growth factor, a regulator related with 10-hydroxy-2-decenoic acid down-regulate MMPs in rheumatoid arthritis. *Rheumatol. Int.* **32(9)**, 2791-2799 (2011).
4. Izuta, H., Chikaraishi, Y., Shimazawa, M., *et al.* 10-Hydroxy-2-decenoic acid, a major fatty acid from royal jelly, inhibits VEGF-induced angiogenesis in human umbilical vein endothelial cells. *Evid. Based Complement. Alternat. Med.* **6(4)**, 489-494 (2009).
5. Hattori, N., Nomoto, H., Fukumitsu, H., *et al.* Royal jelly and its unique fatty acid, 10-hydroxy-trans-2-decenoic acid, promote neurogenesis by neural stem/progenitor cells *in vitro*. *Biomed. Res.* **28(5)**, 261-266 (2007).
6. Koya-Miyata, S., Okamoto, I., Ushio, S., *et al.* Identification of a collagen production-promoting factor from an extract of royal jelly and its possible mechanism. *Biosci. Biotechnol. Biochem.* **68(4)**, 767-773 (2004).

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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