

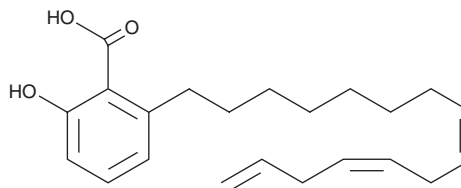
PRODUCT INFORMATION



Anacardic Acid triene

Item No. 26611

CAS Registry No.: 103904-73-0
Formal Name: 2-hydroxy-6-(8Z,11Z)-8,11,14-pentadecatrien-1-yl-benzoic acid
Synonym: Anacardic Acid 15:3
MF: C₂₂H₃₀O₃
FW: 342.5
Purity: ≥98%
UV/Vis.: λ_{max}: 244, 313 nm
Supplied as: A neat oil
Storage: -20°C
Stability: ≥1 year
Item Origin: Plant/*Anacardium occidentale*



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

Laboratory Procedures

Anacardic acid triene is supplied as a neat oil. A stock solution may be made by dissolving the anacardic acid triene in the solvent of choice. Anacardic acid triene is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of anacardic acid triene in these solvents is approximately 22, 15, and 20 mg/ml, respectively.

Anacardic acid triene is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, anacardic acid triene should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Anacardic acid triene 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

Anacardic acid triene is a polyunsaturated form of anacardic acid (Item No. 13144) that has been found in cashew nut shell liquid.¹ It inhibits soybean lipoxygenase-1 (IC₅₀ = 60 μM in an enzyme assay) and inhibits superoxide production by xanthine oxidase by 82% when used at a concentration of 88 μM.^{1,2} Anacardic acid triene is active against *S. mutans* and *S. aureus*, including the methicillin-resistant *S. aureus* (MRSA) strain ATCC 33591 (MICs = 1.56, 6.25, and 6.25 μg/ml, respectively).³ It also inhibits NADH oxidase (IC₅₀ = 1.3 μg/ml), an enzyme involved in bacterial respiration. Anacardic acid triene is molluscicidal, inducing toxicity in *B. glabrata* (LC₅₀ = 0.35 ppm), but is inactive against *S. mansoni* parasites.^{4,5}

References

1. Masuoka, N. and Kubo, I. Characterization of xanthine oxidase inhibition by anacardic acids. *Biochim. Biophys. Acta* **1688**(3), 245-249 (2004).
2. Shobha, S.V., Ramadoss, C.S., and Ravindranath, B. Inhibition of soybean lipoxygenase-1 by anacardic acids, cardols, and cardanols. *J. Nat. Prod.* **57**(12), 1755-1757 (1994).
3. Kubo, I., Nihei, K., and Tsujimoto, K. Antibacterial action of anacardic acids against methicillin resistant *Staphylococcus aureus* (MRSA). *J. Agric. Food Chem.* **51**(26), 7624-7628 (2003).
4. Sullivan, J.T., Richards, C.S., Lloyd, H.A., et al. Anacardic acid: Molluscicide in cashew nut shell liquid. *Planta Med.* **44**(3), 175-177 (1982).
5. Alvarenga, T.A., de Oliveira, P.F., de Souza, J.M., et al. Schistosomicidal activity of alkyl-phenols from the cashew *Anacardium occidentale* against *Schistosoma mansoni* adult worms. *J. Agric. Food Chem.* **64**(46), 8821-8827 (2016).

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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