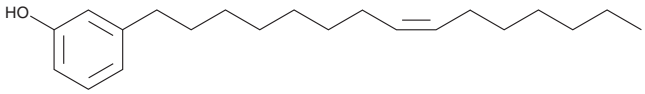
PRODUCT INFORMATION

Cardanol monoene

Item No. 23154

CAS Registry No.: 501-26-8
Formal Name: 3-8Z-pentadecen-1-yl-phenol
Synonym: Cardanol C15:1
MF: $C_{21}H_{34}O$
FW: 302.5
Purity: ≥98%
UV/Vis.: λ_{max}: 276 nm
Supplied as: A neat oil
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

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

Cardanol monoene is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, cardanol monoene should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Cardanol monoene 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

Cardanol monoene is a phenol found in cashew nut shell liquid that reversibly inhibits tyrosinase with an IC_{50} value of 56 µM *in vitro*.[1] It halts the cell cycle at the S phase and inhibits proliferation dose- and time-dependently in M14 melanoma cells (IC_{50}s = 23.15 and 12.30 µM after 24 and 48 hours of treatment, respectively).[2] Cardanol monoene also induces apoptosis *via* the intrinsic pathway following the accumulation of reactive oxygen species (ROS). A mixture of cardanol mono-, di-, and triene is used to synthesize cardanol-metal complexes that inhibit uropathogenic *E. coli* biofilm formation.[3]

References

1. Yu, X.-P., Su, W.-C., Wang, Q., *et al.* Inhibitory mechanism of cardanols on tyrosinase. *Proc. Biochem.* **51(12),** 2330-2237 (2016).
2. Su, W.-C., Lin, Y.-F., Wang, Y.-X., *et al.* Mitochondria-associated apoptosis in human melanoma cells induced by cardanol monoene from cashew nut shell liquid. *J. Agric. Food Chem.* **65(28)**, 5620-5631 (2017).
3. Lalitha, K., Prasad, Y.S., Sridharan, V., *et al.* Intrinsic hydrophobic antibacterial thin film from renewable resources: Application in the development of anti-biofilm urinary catheters. *ACS Sus. Chem. Eng. (Univ. of Berlin)* **5(1)**, 436 (2017).

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