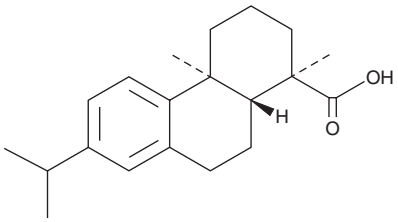
PRODUCT INFORMATION

Dehydroabietic Acid

Item No. 33722

CAS Registry No.: 1740-19-8
Formal Name: (1R,4aS,10aR)-1,2,3,4,4a,9,10,10a-octahydro-1,4a-dimethyl-7-(1-methylethyl)-1-phenanthrenecarboxylic acid
Synonyms: (+)-Dehydroabietic Acid, NSC 2952
MF: $C_{20}H_{28}O_2$
FW: 300.4
Purity: ≥90%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

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

Description

Dehydroabietic acid is a diterpene acid that has been found in *P. elliottii* resin and has diverse biological activities.[1-3] It is active against *L. amazonensis* promastigotes (IC_{50} = 40 µg/ml).[1] Dehydroabietic acid (2.5, 5, and 10 µM) increases the number of mitochondrial ridges, decreases mitochondrial outer membrane rupture, and increases the expression of *FSP1* and *COQ10* in an HL7720 cell model of ferroptosis induced by oleic acid (Item Nos. 90260 | 24659).[2] *In vivo*, dehydroabietic acid (10 and 20 mg/kg) reduces hepatic total cholesterol and triglyceride levels, ferroptosis, and lipid peroxidation in a mouse model of high-fat diet-induced non-alcoholic fatty liver disease (NAFLD). Dehydroabietic acid is also found in wood industry effluents and is considered a pollutant.[3] It increases oxygen consumption and cellular heat production and reduces cellular ATP content in isolated rainbow trout (*O. mykiss*) hepatocytes.

References

1. Gonçalves, M.D., Bortoleti, B.T.S., Tomiotto-Pellissier, F., *et al.* Dehydroabietic acid isolated from *Pinus elliottii* exerts *in vitro* antileishmanial action by pro-oxidant effect, inducing ROS production in promastigote and downregulating Nrf2/ferritin expression in amastigote forms of *Leishmania amazonensis*. *Fitoterapia* **128**, 224-232 (2018).
2. Gao, G., Xie, Z., Li, E.-W., *et al.* Dehydroabietic acid improves nonalcoholic fatty liver disease through activating the Keap1/Nrf2-ARE signaling pathway to reduce ferroptosis. *J. Nat. Med.* (2021).
3. Rissanen, E., Krumschnabel, G., and Nikinmaa, M. Dehydroabietic acid, a major component of wood industry effluents, interferes with cellular energetics in rainbow trout hepatocytes. *Aquat. Toxicol.* **62(1)**, 45-53 (2003).

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