

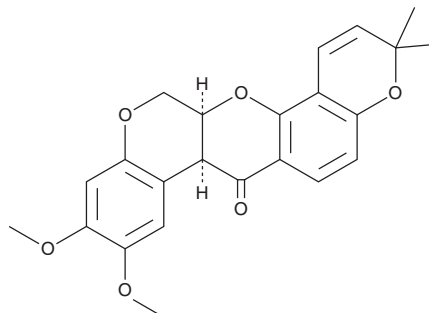
PRODUCT INFORMATION



(-)-Deguelin

Item No. 10010706

CAS Registry No.: 522-17-8
Formal Name: 13,13aS-dihydro-9,10-dimethoxy-3,3-dimethyl-3H-[1]benzopyrano[3,4-b]pyrano[2,3-h][1]benzopyran-7(7aS)-one
Synonym: (-)-cis-Deguelin
MF: C₂₃H₂₂O₆
FW: 394.4
Purity: ≥98%
UV/Vis.: λ_{max}: 238, 252, 270, 297 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

(-)-Deguelin is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-deguelin in an organic solvent purged with an inert gas. (-)-Deguelin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (-)-deguelin in these solvents is approximately 25 mg/ml.

(-)-Deguelin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (-)-deguelin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (-)-Deguelin has a solubility of approximately 0.33 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(-)-Deguelin is a rotenoid that has been found in *T. vogelii* and has diverse biological activities.¹⁻⁴ It inhibits mitochondrial complex I, also known as NADH dehydrogenase, activity in bovine heart electron transport particles and phorbol 12-myristate 13-acetate-induced ornithine decarboxylase (ODC) activity in MCF-7 breast cancer cells (IC₅₀s = 6.9 and 11 nM, respectively).² (-)-Deguelin (100 nM) induces apoptosis in MCF-7 and SK-BR-3 breast cancer cells.³ It induces mortality in adult bruchid beetles (*C. maculatus*) when used at concentrations ranging from 10 to 500 ppm.¹ (-)-Deguelin (6 mg/kg) induces nigrostriatal dopaminergic degeneration in rats.⁴

References

1. Belmain, S.R., Amoah, B.A., Nyirenda, S.P., et al. Highly variable insect control efficacy of *Tephrosia vogelii* chemotypes. *J. Agric. Food Chem.* **60(40)**, 10055-10063 (2012).
2. Fang, N. and Casida, J.E. *Proc. Natl. Acad. Sci. USA* Anticancer action of cubé insecticide: Correlation for rotenoid constituents between inhibition of NADH: Ubiquinone oxidoreductase and induced ornithine decarboxylase activities. **95(7)**, 3380-3384 (1998).
3. Peng, X.-H., Karna, P., O'Regan, R.M., et al. *Mol. Pharmacol.* Down-regulation of inhibitor of apoptosis proteins by deguelin selectively induces apoptosis in breast cancer cells. **71(1)**, 101-111 (2007).
4. Caboni, P., Sherer, T.B., Zhang, N., et al. Rotenone, deguelin, their metabolites, and the rat model of Parkinson's disease. *Chem. Res Toxicol.* **17(11)**, 1540-1548 (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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/30/2024

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