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DATASHEET

Rotenone

Product overview

Name	Rotenone
Cat No	HB5398
Purity	>95%
Description	Mitochondrial Complex I Inhibitor. Induces mitochondrial dysfunction.

Biological Data

Biological description Mitochondrial Complex I Inhibitor which impairs mitochondrial respiration by inhibiting to induce ATP depletion, mROS production and loss of mitochondrial membrane potential.

It is commonly used to experimentally induce mitochondrial dysfunction and also used to induce Parkinsonian animal disease models.

Also induces proteasome inhibition.

Cell permeable and brain penetrant.

Solubility & Handling

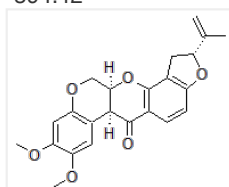
Storage instructions	-20 °C
Solubility overview	Soluble in DMSO (100mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name (2R,6aS,12aS)-1,2,12,12a-Tetrahydro-8,9-dimethoxy-2-(1-methylethenyl)-[1]benzopyrano[3,4-b]furo[2,3-h][1]benzopyran-6(6aH)-one

Molecular Weight 394.42

Chemical structure



Molecular Formula C₂₃H₂₂O₆

CAS Number 83-79-4

PubChem identifier 6758

SMILES

InChi

CC(=C)[C@H]1CC2=C(O1)C=CC3=C2O[C@@H]4COC5=CC(=C(C=C5)[C@@H]4C3=O)OC
InChI=1S/C23H22O6/c1-11(2)16-8-14-15(28-16)6-5-12-22(24)21-13-7-18(25-3)19(26-4)9-17(13)27-10-20(21)29-23(12)14/h5-7,9,16,20-21H,1,8,10H2,2-4H3/t16-,20-,21+/m1/s1

InChiKey JUVIOZPCNVVQFO-HBGVWJBISA-N

MDL number MFCD09025614

Appearance Off-white solid

References

Mechanistic Investigations of the Mitochondrial Complex I Inhibitor Rotenone in the Context of Pharmacological and Safety Evaluation

Heinz et al (2017) Sci Rep. 7,45465

PubMedID [28374803](#)

Mechanisms of Rotenone-Induced Proteasome Inhibition

Chou et al (367-72) Neurotoxicology 31(4)

PubMedID [20417232](#)

Rotenone-induced Impairment of Mitochondrial Electron Transport Chain Confers a Selective Priming Signal for NLRP3 Inflammasome Activation

Hee Won et al (2015) J Biol Chem 290(45)

PubMedID [26416893](#)
