

**Product Name:** Rotenone

**Catalog No.:** 3616

**Batch No.:** 2

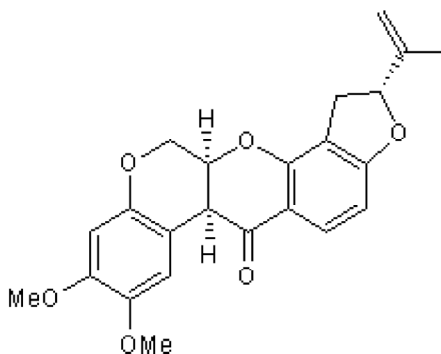
CAS Number: 83-79-4

EC Number: 201-501-9

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

## 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>23</sub> H <sub>22</sub> O <sub>6</sub> .
<b>Batch Molecular Weight:</b>	394.42
<b>Physical Appearance:</b>	White solid
<b>Solubility:</b>	DMSO to 100 mM
<b>Storage:</b>	Store at RT
<b>Batch Molecular Structure:</b>	



## 2. ANALYTICAL DATA

<b>HPLC:</b>	Shows 98.3% purity
<b><sup>1</sup>H NMR:</b>	Consistent with structure
<b>Mass Spectrum:</b>	Consistent with structure
<b>Optical Rotation:</b>	[α] <sub>D</sub> = -128 (Concentration = 0.5, Solvent = Chloroform)
<b>Microanalysis:</b>	
	Carbon Hydrogen Nitrogen
	Theoretical 70.04 5.62
	Found 70 5.63

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Rotenone is a mitochondrial electron transport chain inhibitor (IC<sub>50</sub> = 1.7 - 2.2 μM at complex I). Inhibits NADH oxidation by cardiac sarcoplasmic reticulum (IC<sub>50</sub> = 3.4 nM). Commonly used pesticide and induces Parkinsonism in animal models. May also inhibit autophagy induction; blocks lysosomal degradation of autophagic vacuoles. Cell-permeable and brain penetrant.

**Physical and Chemical Properties:**

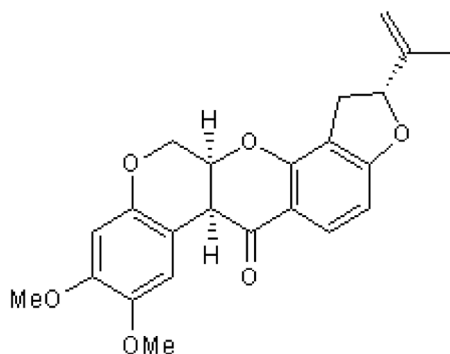
Batch Molecular Formula: C<sub>23</sub>H<sub>22</sub>O<sub>6</sub>.

Batch Molecular Weight: 394.42

Physical Appearance: White solid

**Minimum Purity:** ≥95%

**Batch Molecular Structure:**



**Storage:** Store at RT

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

DMSO to 100 mM

CAUTION - This product is light sensitive and oxidizes upon contact with air. We recommend that solutions are protected from exposure to light and are stored under Nitrogen.

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Mader et al** (2012) Rotenone inhibits autophagic flux prior to inducing cell death. *ACS Chem.Neurosci.* **3** 1063. PMID: 23259041.

**Gomez et al** (2007) Pesticides and impairment of mitochondrial function in relation with the parkinsonian syndrome. *Front.Biosci.* **12** 1079. PMID: 17127363.

**Cherednichenko et al** (2004) NADH oxidase activity of rat cardiac sarcoplasmic reticulum regulates calcium-induced calcium release. *Circ.Res.* **94** 478. PMID: 14699012.

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