

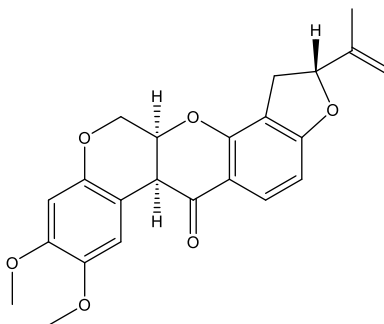
**Catalog # 10-2277**

**Rotenone**

CAS# 83-79-4

(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; Nicouline; NSC-26285

Lot # X102953



The most common member of the rotenoid natural product family inhibits complex I of the mitochondrial electron transport chain ( $IC_{50} = 1.7 - 2.2 \mu M$ ).<sup>1</sup> Also inhibits NADH oxidation by cardiac sarcoplasmic reticulum ( $IC_{50} = 3.4 nM$ ).<sup>2</sup> May be used to induce Parkinsonism in animal models.<sup>3,4</sup> Inhibits autophagy by blocking lysosomal degradation of autophagic vacuoles.<sup>5</sup>

- 1) Heinz *et al.* (2017), *Mechanistic Investigations of the Mitochondrial Complex I Inhibitor Rotenone in the Context of Pharmacological and Safety Evaluation*; *Sci. Rep.*, **7** 45465
- 2) Cherednichenko *et al.* (2004), *NADH oxidase activity of rat cardiac sarcoplasmic reticulum regulates calcium-induced calcium release*; *Circ. Res.*, **94** 478
- 3) Uversky (2003), *Neurotoxicant-induced animal models of Parkinson's disease: understanding the role of rotenone, maneb and paraquat in neurodegeneration*; *Cell Tissue Res.*, **318** 225
- 4) Zheng *et al.* (2023), *LAR Downregulation Protects the Astrocytic U251 and Cocultured SH-SY5Y Cells in a Rotenone-Induced Parkinson's Cell Model*; *Int. J. Mol. Sci.*, **24** 11111
- 5) Mader *et al.* (2012), *Rotenone inhibits autophagic flux prior to inducing cell death*; *ACS Chem. Neurosci.*, **3** 1063

**PHYSICAL DATA**

|                        |   |
|------------------------|---|
| Molecular Weight:      | 394.42  |
| Molecular Formula:     | C <sub>23</sub> H <sub>22</sub> O <sub>6</sub>  |
| Purity:                | >98% by HPLC  |
|                        | NMR (Conforms)  |
| Solubility:            | DMSO (50 mg/ml)   |
| Physical Description:  | Off-white solid   |
| Storage and Stability: | Store as supplied at room temperature for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months. |

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**