

Product Data Sheet

Rotenone

Cat. No.:	B5462
CAS No.:	83-79-4
Formula:	C23H22O6
M.Wt:	394.42
Synonyms:	
Target:	Metabolism
Pathway:	Oxidative Phosphorylation
Storage:	Store at RT



Solvent & Solubility

insoluble in EtOH; insoluble in H₂O; ≥ 77.6 mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	Concentration			
	1 mM	2.5354 mL	12.6768 mL	25.3537 mL
	5 mM	0.5071 mL	2.5354 mL	5.0707 mL
	10 mM	0.2535 mL	1.2677 mL	2.5354 mL

Please refer to the solubility information to select the appropriate solvent

Biological Activity

Shortsummary

inhibitor of the mitochondrial complex I electron transport chain

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line: differentiated SH-SY5Y neuroblastoma cells

Preparation method:

The solubility of this compound in DMSO is ≥ 77.6 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions:

50 nM; 21 days

	Applications:	In differentiated SH-SY5Y neuroblastoma cells, Rotenone (50 nM) produced a biphasic survival curve with ~40% loss by 6 days and a second decline to ~60% loss between 18 and 21 days. Mitochondrial movement velocities were reduced at 8 days.
In Vivo	Animal experiment	
	Animal models:	20–25-weekold female BALB/c mice
	Dosage form:	(rotenone: 0.35 mg/kg; DMSO: 9.86 mg/kg) or vehicle (DMSO: 9.86 mg/kg); injected into the right-side nasal cavity of mice; once a day for 2 weeks
	Applications:	In mice, rotenone attenuated the olfactory function and retarded the inhibitory input into the mitral cells, which are output neurons in the olfactory bulb (OB). Rotenone also caused neurite degeneration of DA neurons in the substantia nigra.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

- [1]. Borland MK, Trimmer PA, Rubinstein JD, et al. Chronic, low-dose rotenone reproduces Lewy neurites found in early stages of Parkinson's disease, reduces mitochondrial movement and slowly kills differentiated SH-SY5Y neural cells. *Mol Neurodegener*, 2008, 3: 21.
- [2]. Sasajima H1, Miyazono S, Noguchi T, et al. Intranasal Administration of Rotenone to Mice Induces Dopaminergic Neurite Degeneration of Dopaminergic Neurons in the Substantia Nigra. *Biol Pharm Bull*. 2017;40(1):108-112.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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