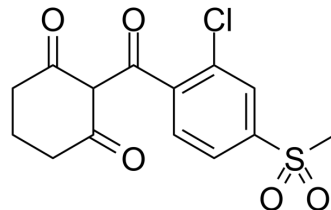


Sulcotrione

Cat. No.:	HY-107368		
CAS No.:	99105-77-8		
Molecular Formula:	C ₁₄ H ₁₃ ClO ₅ S		
Molecular Weight:	328.77		
Target:	Reactive Oxygen Species		
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (304.16 mM; Need ultrasonic and warming)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.0416 mL	15.2082 mL	30.4164 mL
	5 mM	0.6083 mL	3.0416 mL	6.0833 mL
	10 mM	0.3042 mL	1.5208 mL	3.0416 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (7.60 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (7.60 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (7.60 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sulcotrione is a β-triketone herbicide which can inhibit hydroxyphenylpyruvate dioxygenase (HPPD).

IC₅₀ & Target

HPPD^[1]

In Vitro

The results show that sulcotrione behaves as time-independent reversible inhibitor. Similar results are previously described for natural β-triketones, and for the synthetic β-triketone NTBC. However it is the first time that such behavior is observed using a purified hydroxyphenylpyruvate dioxygenase (HPPD) and a synthetic β-triketone, namely sulcotrione. Inhibition

kinetic analysis, performing with 3 hydroxyphenylpyruvate (HPP) and sulcotrione concentrations, show that the apparent K_M increasing with sulcotrione concentration. This behavior is consistent with the data present in the literature, describing sulcotrione as a competitive inhibitor of HPPD^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay ^[1]

Electrochemical behavior of sulcotrione at 0.2 mg/L is characterized by cyclic voltammetry. Preliminary HPPD inhibition assays are performed by incubating the enzyme during time periods ranging from 2 to 10 min in presence of sulcotrione at different concentrations^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Rocaboy-Faquet E, et al. A novel amperometric biosensor for β -triketone herbicides based on hydroxyphenylpyruvatedioxygenase inhibition: A case study for sulcotrione. *Talanta*. 2016;146:510-6.

Caution: Product has not been fully validated for medical applications. For research use only.

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