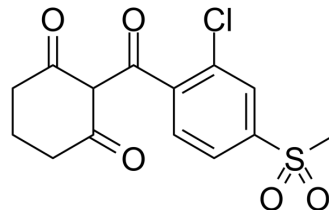


## Sulcotrione

<b>Cat. No.:</b>	HY-107368		
<b>CAS No.:</b>	99105-77-8		
<b>Molecular Formula:</b>	C <sub>14</sub> H <sub>13</sub> ClO <sub>5</sub> S		
<b>Molecular Weight:</b>	328.77		
<b>Target:</b>	Reactive Oxygen Species		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
<b>Storage:</b>	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).

#### IC<sub>50</sub> & Target

HPPD<sup>[1]</sup>

#### 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

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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<sup>[1]</sup>.

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

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## PROTOCOL

### Kinase Assay <sup>[1]</sup>

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<sup>[1]</sup>.

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

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## REFERENCES

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

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

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