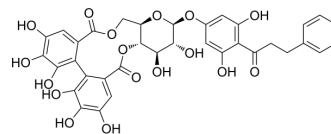


Thonningianin B

Cat. No.:	HY-N8678
CAS No.:	271579-12-5
Molecular Formula:	C ₃₅ H ₃₀ O ₁₇
Molecular Weight:	722.6
Target:	Autophagy
Pathway:	Autophagy
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 66.67 mg/mL (92.26 mM; Need ultrasonic)					
	Methanol : 62.5 mg/mL (86.49 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		1.3839 mL	6.9195 mL	13.8389 mL
5 mM			0.2768 mL	1.3839 mL	2.7678 mL	
10 mM		0.1384 mL	0.6919 mL	1.3839 mL		
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1.25 mg/mL (1.73 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.25 mg/mL (1.73 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Thonningianin B is an antioxidant and an autophagy enhancer ^{[1][2]} .
In Vitro	<p>Thonningianin B shows strong scavenging action against the DPPH radical. The DPPH radical is scavenged completely by a 34.5 μM solution of Thonningianin B. In a separate experiment, an IC₅₀ value of Thonningianin B is determined to be 21 μM^[1].</p> <p>Thonningianin B (0-100 μM; 24 h) inhibits BV-2 cell viability with an IC₅₀ of 46.74 μM^[2].</p> <p>Thonningianin B (10 μM; 24 h) significantly improves the ratio of LC3-II/LC3-I and the average number of GFP-LC3 puncta per cell in BV-2 cells^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[2]</p>

Cell Line:	BV-2 cells
Concentration:	0-100 μ M
Incubation Time:	24 h
Result:	Inhibited viability with an IC ₅₀ of 46.74 μ M.

Cell Autophagy Assay^[2]

Cell Line:	BV-2 cells
Concentration:	10 μ M
Incubation Time:	24 h
Result:	Significantly improved the ratio of LC3-II/LC3-I and the average number of GFP-LC3 puncta per cell.

REFERENCES

[1]. Ohtani II, et al. Thonningianins A and B, new antioxidants from the African medicinal herb Thonningia sanguinea. J Nat Prod. 2000 May;63(5):676-9.

[2]. Zhou XG, et al. Targeting microglial autophagic degradation of the NLRP3 inflammasome for identification of thonningianin A in Alzheimer's disease. Inflamm Regen. 2022 Aug 3;42(1):25.

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

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