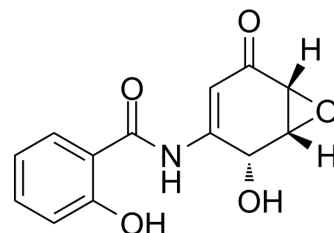


(+)-DHMEQ

Cat. No.:	HY-14645A		
CAS No.:	287194-41-6		
Molecular Formula:	C ₁₃ H ₁₁ NO ₅		
Molecular Weight:	261.23		
Target:	Keap1-Nrf2		
Pathway:	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 (382.80 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
			10 mg	
Preparing Stock Solutions	1 mM	3.8280 mL	19.1402 mL	38.2804 mL
	5 mM	0.7656 mL	3.8280 mL	7.6561 mL
	10 mM	0.3828 mL	1.9140 mL	3.8280 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: ≥ 2.5 mg/mL (9.57 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	(+)-DHMEQ is an activator of antioxidant transcription factor Nrf2. (+)-DHMEQ is the enantiomer of (-)-DHMEQ. (-)-DHMEQ inhibits NF-κB than its enantiomer (+)-DHMEQ.
IC ₅₀ & Target	Nrf2 ^[1]
In Vitro	(+)-DHMEQ ((2R,3R,4R)-DHMEQ) activates Nrf2, which is a transcription factor that induces the expression of multiple antioxidant enzymes. (+)-DHMEQ activates Nrf2 in a promoter reporter assay. (+)-DHMEQ also increases the expression of target antioxidant proteins and cancelled reactive oxygen species (ROS)-induced cell death in a neuronal cell line. ROS generating 6-hydroxydopamine hydrochloride (6-OHDA) induces the death of SK-N-SH cells, and (+)-DHMEQ decreases the cytotoxic effect of 6-OHDA, whereas its effect is weaker in Nrf2-knockdown cells prepared with siRNA. Thus, enhancement of the neural cell viability by (+)-DHMEQ is due to the activation of Nrf2 ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay ^[1]

SK-N-SH cells are seeded at 1.75×10^4 cells/well in a 24-well plate and cultured overnight. The cells are treated with various concentrations of (+)-DHMEQ (1, 3, and 10 $\mu\text{g}/\text{mL}$) for 24 h and subsequently treated with 300 μM 6-OHDA for 24 h. Then, cells are stained with Trypan blue, and the number of stained cells is counted^[1].

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

CUSTOMER VALIDATION

- Sens Actuators B Chem. 2018 Nov 20;274:481-490.
- J Neuroimmune Pharmacol. 2019 Mar;14(1):94-109.

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REFERENCES

[1]. Niitsu Y, et al. Chemoenzymatic synthesis of (2R,3R,4R)-dehydroxymethylepoxyquinomicin (DHMEQ), a new activator of antioxidant transcription factor Nrf2. Org Biomol Chem. 2011 Jun 21;9(12):4635-41.

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

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