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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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- Expressversand

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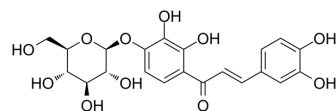
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Marein

Cat. No.:	HY-N7676
CAS No.:	535-96-6
Molecular Formula:	C ₂₁ H ₂₂ O ₁₁
Molecular Weight:	450.39
Target:	AMPK; HDAC
Pathway:	Epigenetics; PI3K/Akt/mTOR; Cell Cycle/DNA Damage
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 25 mg/mL (55.51 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	2.2203 mL	11.1015 mL	22.2030 mL
				5 mM	0.4441 mL	2.2203 mL	4.4406 mL
				10 mM	0.2220 mL	1.1101 mL	2.2203 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 (5.55 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.55 mM); Clear solution						

BIOLOGICAL ACTIVITY

Description	Marein has the neuroprotective effect due to a reduction of damage to mitochondria function and activation of the AMPK signal pathway. Marein improves insulin resistance induced by high glucose in HepG2 cells through CaMKK/AMPK/GLUT1 to promote glucose uptake, through IRS/Akt/GSK-3β to increase glycogen synthesis, and through Akt/FoxO1 to decrease gluconeogenesis. Marein is a HDAC inhibitor with an IC ₅₀ of 100 μM. Marein has beneficial antioxidative, antihypertensive, antihyperlipidemic and antidiabetic effects ^{[1][2][3]} .
IC ₅₀ & Target	IC ₅₀ : 100 μM (HDAC) ^[3]
In Vitro	Marein (0-1000 μM; 24 h) inhibits HDAC activity and TNFα-induced NF-κB activation with IC ₅₀ values of 100 and 200 μM, respectively ^[1] . Marein (1.25-40 μM; 24 h) promotes glucose uptake in HepG2 cells ^[2] .

Marein (5-10 μM ; 24 h) promotes GLUT1 translocation from intercellular vesicles to the plasma membrane, increases hepatic glycogen content and down-regulates expression levels of G6Pase and PEPCK in HepG2 cells^[2].

Marein (5-10 μM ; 24 h) stimulates 2-NBDG uptake, and it can be reduced by STO-609 and compound C which is an inhibitor of AMPK^[2].

Marein (0-40 μM ; 24 h) affects the cytotoxicity of MG in PC12 cells^[3].

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

Western Blot Analysis^[2]

Cell Line:	HepG2 cell line
Concentration:	5 and 10 μM
Incubation Time:	24 hours
Result:	Increased GLUT1 translocation to plasma membrane and decreased the phosphorylation level of AS160 and GSK-3 β in HepG2 cells.

Western Blot Analysis^[2]

Cell Line:	HepG2 cell line
Concentration:	10 μM
Incubation Time:	0-10 hours
Result:	Time- and dose-dependently induced phosphorylation of AMPK and Akt in HepG2 cells.

Cell Viability Assay^[3]

Cell Line:	PC12 cell line
Concentration:	0-40 μM
Incubation Time:	24 hours
Result:	Prevented MG-induced loss of viability in PC12 cells.

Apoptosis Analysis^[3]

Cell Line:	PC12 cell line
Concentration:	5-10 μM
Incubation Time:	30 min
Result:	Protected PC12 cells from MG-induced apoptosis.

Western Blot Analysis^[3]

Cell Line:	PC12 cell line
Concentration:	5-10 μM
Incubation Time:	30 min
Result:	Increased phospho-AMPK α (Thr172) in PC12 cells.

REFERENCES

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- [1]. Baoping Jiang, et al. Protective effects of marein on high glucose-induced glucose metabolic disorder in HepG2 cells. *Phytomedicine*. 2016 Aug 15;23(9):891-900.
- [2]. Baoping Jiang, et al. Marein protects against methylglyoxal-induced apoptosis by activating the AMPK pathway in PC12 cells. *Free Radic Res*. 2016;50(11):1173-1187.
- [3]. B Orlikova, et al. Natural chalcones as dual inhibitors of HDACs and NF- κ B. *Oncol Rep*. 2012 Sep;28(3):797-805.
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Caution: Product has not been fully validated for medical applications. For research use only.

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