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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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5-Heptadecylresorcinol

Cat. No.: HY-N2673

CAS No.: 41442-57-3

Molecular Formula: $C_{23}H_{40}O_2$

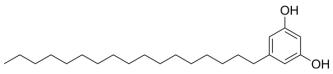
Molecular Weight: 348.56

Target: Sirtuin

Pathway: Cell Cycle/DNA Damage; Epigenetics

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (286.89 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8689 mL	14.3447 mL	28.6895 mL
	5 mM	0.5738 mL	2.8689 mL	5.7379 mL
	10 mM	0.2869 mL	1.4345 mL	2.8689 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.17 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

5-Heptadecylresorcinol (AR-C17), a phenolic lipid component, is also an orally active mitochondrial protector. 5-Heptadecylresorcinol improves mitochondrial function via sirtuin3 signaling pathway, thus alleviates endothelial cell damage and apoptosis. 5-Heptadecylresorcinol induces sirtuin3-mediated autophagy. 5-Heptadecylresorcinol reduces the atherosclerotic plaques in the aortic root region of mice heart. 5-Heptadecylresorcinol can be used for research of atherosclerosis prevention and obesity[1][2].

IC_{50} & Target

SIRT3

In Vitro

5-Heptadecylresorcinol (0, 0.5, 1, and 2 μM; 24 h) alleviates mitochondrial dysfunction through upregulation of SIRT3 in HUVECs[1].

5-Heptadecylresorcinol alleviates inflammatory conditioned medium (CM) induced adipocyte lipolysis and mitochondrial damage, accompanied by attenuated mitochondrial reactive oxygen species production and mitochondrial membrane depolarization[2].

5-Heptadecylresorcinol (5, 10 and 15 μM; 24 h) significantly prevents CM-induced adipocyte lipolysis by decreasing the release of glycerol in 3T3-L1 adipocytes[2].

5-Heptadecylresorcinol (5, 10 and 15 μM; 24 h) ameliorates mitochondrial dysfunction in adipocytes induced by CM[2].

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

Western Blot Analysis[2]

Cell Line:	3T3-L1 adipocytes
Concentration:	5, 10 and 15 μM
Incubation Time:	24 hours
Result:	Increased the expression of UCP1, COX IV, PGC-1α, DRP1 and MFN2 proteins.

In Vivo

5-Heptadecylresorcinol (30 mg/kg, 150 mg/kg; po daily for 16 weeks) improves the lipid metabolism in HFD-fed ApoE$^{-/-}$ mice[1].

5-Heptadecylresorcinol (30 mg/kg, 150 mg/kg; po daily for 16 weeks) increases the body weight of mouse, and alleviates adipose tissue macrophage infiltration and mitochondrial dysfunction[2].

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

Animal Model:	C57BL/6J mice[1][2]
Dosage:	30 mg/kg, 150 mg/kg
Administration:	PO; daily for 16 weeks
Result:	Lowered serum total cholesterol, triglyceride, VLDL-C, and LDL-C levels[1]. Reduced adipose tissue macrophage infiltration from high-fat diet induced obese C57BL/6J mice[2].

REFERENCES

[1]. Rakshit D, et al. The Pharmacological Activity of Garlic (Allium sativum) in Parkinson's Disease: From Molecular Mechanisms to the Therapeutic Potential. ACS Chem Neurosci. 2023 Mar 15;14(6):1033-1044.

[2]. Yoo DY, et al. Neuroprotective effects of Z-ajoene, an organosulfur compound derived from oil-macerated garlic, in the gerbil hippocampal CA1 region after transient forebrain ischemia. Food Chem Toxicol. 2014 Oct;72:1-7.

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