Product Datasheet

Radicicol

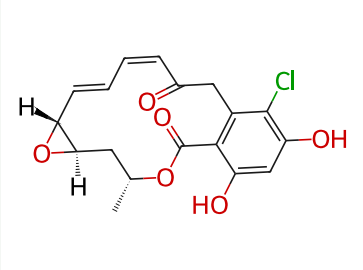
Catalog No. **BP-08996** · CAS **12772-57-5** · Form **free base** · Physical state **solid** · Version **1.0** · Revision **2026-11-13**

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Target	Research area
HSP Bacterial Antibiotic Parasite	**Infection**

Molecular formula	$C_{18}H_{17}ClO_6$
Molecular weight	**364.7810**

STRUCTURE



DESCRIPTION

Radicicol is an inhibitor of Hsp90 with an IC50 value < 1 μM, and leads to proteasomal degradation . Radicicol exhibits inhibition on PDK with IC50s of 230 μM (PDK1) and 400 μM (PDK3). Radicicol is an antifungal and antimalarial antibiotic, impairs mitochondrial replication by targeting P. falciparum topoisomerase VIB . Radicicol is also an inhibitor of fat mass and obesity-associated protein (FTO), with an IC50 value of 16.04 μM .

BIOLOGICAL ACTIVITY

In Vitro

Radicicol (1 μM or 100 μM) inhibits the activities of Hsp90 and Topo VI by blocking ATP binding[1].

? Radicicol (100 μM; 10 min) binds to ATP-binding site in the C-terminal domain of PDK3 and prevents maturation of Hsp90 clients[1].

? Radicicol (0.25-18 μM; 48 h) inhibits P. falciparum?3D7 growth with an IC50 value of 8.563 μM, and (8 μM; 50 h) delays the schizont-to-ring transition[2].

? Radicicol (1.5 μM; 40 h) suppresses mitochondrial DNA replication without affecting nuclear and apicoplast genomes[2].

? Radicicol (0.001-5 μM; 72 h) induces myoblast differentiation with the myoblast toxicity concentration of 0.1 μM[5].

In Vivo

Radicicol (20 mg/kg or 60 mg/kg; i.p.; twice dosages; 1 h before and after) has renoprotection effect, and ameliorates renal ischemia reperfusion (I/R) injury and increases renal HSP70 mRNA and protein in renal injury mice[4].

? Radicicol (0.05 mg/20 g; s.c.; single dose) enhances the regeneration of skeletal muscle injured by crotoxin via decrease of NF-kB activation[5].

REFERENCES

[1]. Kato M, et al. Distinct structural mechanisms for inhibition of pyruvate dehydrogenase kinase isoforms by AZD7545, dichloroacetate, and radicicol. Structure. 2007 Aug;15(8):992-1004. Epub 2007 Aug 2.

[2]. Chalapareddy S, et al. Radicicol confers mid-schizont arrest by inhibiting mitochondrial replication in Plasmodium falciparum. Antimicrob Agents Chemother. 2014 Aug;58(8):4341-52.

[3]. Wang R, et al. Identification of Natural Compound Radicicol as a Potent FTO Inhibitor. Mol Pharm. 2018 Sep 4;15(9):4092-4098.

[4]. Sonoda H, et al. The protective effect of radicicol against renal ischemia--reperfusion injury in mice. J Pharmacol Sci. 2010;112(2):242-6.

[5]. Nascimento TL, et al. Radicicol enhances the regeneration of skeletal muscle injured by crotoxin via decrease of NF-kB activation. Toxicon. 2019 Sep;167:6-9.