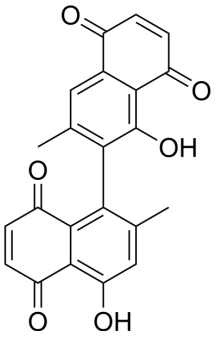
Isodiospyrin

Cat. No.:	HY-N3488
CAS No.:	20175-84-2
Molecular Formula:	$C_{22}H_{14}O_6$
Molecular Weight:	374
Target:	Topoisomerase; Bacterial; Fungal
Pathway:	Cell Cycle/DNA Damage; Anti-infection
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description	Isodiospyrin, a natural dimeric naphthoquinone, is a human DNA topoisomerase I (Topoisomerase) inhibitor. Isodiospyrin can prevent both DNA relaxation and kinase activities of human topoisomerase I. Isodiospyrin shows anticancer, antibacterial and antifungal activities[1][2][3].
IC_{50} & Target	Topoisomerase I
In Vitro	Isodiospyrin (10-40 μM) does not induce human topoisomerase I (htopo I)-DNA covalent complexes. However, Isodiospyrin antagonizes Camptothecin-induced, htopo I-mediated DNA cleavage. Isodiospyrin binds htopo I but not DNA. Isodiospyrin exhibits strong inhibitory effect on the kinase activity of htopo I toward splicing factor 2/alternate splicing factor in the absence of DNA[1]. Isodiospyrin against Gram-positive bacteria with MICs ranged from 0.78 to 50 μg/mL. While Isodiospyrin against Pseudomonas aeruginosa ATCC 15443 and S. typhi ranged from 50 to 100 μg/mL. The MIC for M. chelonae is between 6.25 and 25 μg/mL[2]. Isodiospyrin (30 μM; 120-144 hours) shows 81.4 % growth inhibition of P. obscurans. The antifungal activity of Isodiospyrin at 30 μM against P. viticola is 57.7 %[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Chun-Yuan Ting, et al. Isodiospyrin as a novel human DNA topoisomerase I inhibitor. Biochem Pharmacol. 2003 Nov 15;66(10):1981-91.

[2]. B A Adeniyi, et al. Antibacterial activity of diospyrin, isodiospyrin and bisisodiospyrin from the root of Diospyros piscatoria (Gurke) (Ebenaceae). Phytother Res. 2000 Mar;14(2):112-7.

[3]. Xiaoning Wang, et al. Antifungal metabolites from the roots of Diospyros virginiana by overpressure layer chromatography. Chem Biodivers. 2011 Dec;8(12):2331-40.

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

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