

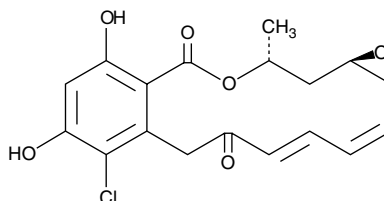
Product Information



Radicicol

Item No. 13089

CAS Registry No.: 12772-57-5
Formal Name: (4E)-8-chloro-1aR,14R,15,15aR-tetrahydro-9,11-dihydroxy-14-methyl-6H-oxireno[e][2Z]benzoxacyclotetradecin-6,12(7H)-dione
Synonyms: KF9-A, KF58332, Monorden, NSC 294404
MF: C₁₈H₁₇ClO₆
FW: 364.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 265 nm



Laboratory Procedures

For long term storage, we suggest that radicicol be stored as supplied at -20°C. It should be stable for at least two years. Radicicol is supplied as a crystalline solid. A stock solution may be made by dissolving the radicicol in an organic solvent purged with an inert gas. Radicicol is soluble in DMSO. The solubility of radicicol in DMSO is approximately 20 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Radicicol is a natural product with antibiotic, antifungal, and antimalarial properties. It binds and inhibits heat shock protein 90 (Hsp90) with nanomolar affinity.¹ This interaction inhibits p23 from associating with Hsp90,² suppresses signaling through HIF-1α,³ and produces decreased levels of progesterone receptor, Raf-1, p185^{erbB2}, and mutant p53.² Radicicol also binds to and inhibits DNA topoisomerase type II proteins⁴ and GRP94⁵ through an ATPase domain common to Hsp90.

References

1. Sharma, S.V., Agatsuma, T., and Nakano, H. Targeting of the protein chaperone, Hsp90, by the transformation suppressing agent, radicicol. *Oncogene* **16**, 2639-2645 (1998).
2. Schulte, T.W., Akinaga, S., Soga, S., *et al.* Antibiotic radicicol binds to the N-terminal domain of Hsp90 and shares important biological activities with geldanamycin. *Cell Stress and Chaperones* **3(2)**, 100-108 (1998).
3. Hur, E., Kim, H.-H., Choi, S.M., *et al.* Reduction of hypoxia-induced transcription through the repression of hypoxia-inducible factor-1 α /aryl hydrocarbon receptor nuclear translocator DNA binding by the 90-kDa heat-shock protein inhibitor radicicol. *Mol Pharmacol.* **62(5)**, 975-982 (2002).
4. Gabelle, D., Bocs, C., Graille, M., *et al.* Inhibition of archaeal growth and DNA topoisomerase VI activities by the Hsp90 inhibitor radicicol. *Nucleic Acids Res.* **33(7)**, 2310-2317 (2005).
5. Corbett, K.D. and Berger, J.M. Structural basis for topoisomerase VI inhibition by the anti-Hsp90 drug radicicol. *Nucleic Acids Res.* **34(15)**, 4269-4277 (2006).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/13089

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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