Ro 48-8071

Cat. No.: HY-18630
CAS No.: 161582-11-2
Molecular Formula: C₂₃H₂₇BrFNO₂
Molecular Weight: 448.37
Target: Others
Pathway: Others
Storage: Please store the product under the recommended conditions in the Certificate of Analysis.

**BIOLOGICAL ACTIVITY**

**Description**
Ro 48-8071 is an inhibitor of OSC (Oxidosqualene cyclase) with IC₅₀ of appr 6.5 nM.

**IC₅₀ & Target**
IC₅₀: appr 6.5 nM (Oxidosqualene cyclase)

**In Vitro**
In HepG2 cells, Ro 48-8071 reduces cholesterol synthesis dose dependently with an IC₅₀ value of appr 1.5 nM. Ro 48-8071 (10 µM) significantly reduces the viability of PC-3 prostate cancer cells, but not normal prostate cells. Ro 48-8071 (10-30 µM) induces apoptosis of both LNCaP and C4-2 cell lines in a dose-dependent manner. And castration-resistant PC-3 and DU145 cells also demonstrate significant levels of apoptosis following 24-hour treatment with Ro 48-8071. Ro 48-8071 (10-25 µM) reduces AR protein expression in a dose-dependent manner. Ro 48-8071 (0.1-1 µM) increases ERβ protein expression dose-dependently in both hormone-dependent LNCaP and castration-resistant PC-3 cells. Using mammalian cells engineered to express human ERα or ERβ protein, together with an ER-responsive luciferase promoter, Ro 48-8071 dose-dependently inhibits 17β-estradiol (E2)-induced ERα responsive luciferase activity (IC₅₀, appr 10 µM), under conditions that are non-toxic to the cells.

**In Vivo**
Ro 48-8071 lowers LDL-C maximally appr 60% at 150 µmol/kg per day, with no further reduction up to 300 µmol/kg per day, leaving HDL-C unchanged at all doses in hamsters. Ro 48-8071 (≥600 µmol/kg per day) increases the amount of MOS in liver of hamsters. Ro 48-8071 (300 µmol/kg per day) markedly and significantly reduces VLDL secretion of hamsters. Ro 48-8071 (5 or 20 mg/kg) significantly reduces in vivo tumor growth in mice, without weight loss of the mice. Furthermore, Ro 48-8071 at a concentration of 20 mg/kg, completely eradicates two of the 12 tumors being monitored in the mice in the timeframe tested. Ro 48-8071 (20 mg/day/kg body weight) leads to a rapid and sustained inhibition (>50%) of cholesterol synthesis in the whole small intestine of BALB/c mice. Sterol synthesis is also reduced in the large intestine and stomach.

**PROTOCOL**

**Animal Administration**
Six-week-old male athymic nude mice (nu/nu) weighing 20-22 g are used in the assay. Castration-resistant PC-3 cells (5×10⁶ in 0.15 mL solution) are mixed with matrigel and RPMI-1640 medium (1/1, v/v) and injected subcutaneously into both flanks of each mouse (n=6 animals/group) and tumors allowed to develop. The tumors are measured twice per week with a digital caliper. Tumor volumes are calculated by the formula (L × W × H) × π/6. Drug treatment is started when tumor volumes reach appr 100 mm³. Mice are given daily tail vein injections of 0.1 mL solution of either 5 or 20 mg/kg Ro 48-8071 for 5 days.
This is followed by an injection every other day for six additional treatments and then a final injection 2 hours prior to sacrifice. Control mice receive the same volume of phosphate-buffered saline on the same schedule. The animals are weighed and tumor volumes are measured twice weekly throughout the drug treatment period. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES


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

Tel: 609-228-6898        Fax: 609-228-5909        E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA