

Product Data Sheet

Product Name: Ecopladib (PLA 725)

Cat. No.: GC30464

Chemical Properties

Cas. No. 381683-92-7

SMILES O=C(O)C1=CC=C(OCCC2=C(CCNS(=O)(CC3=CC=C(CI)C(CI)=C3)=O)N(C(C4=CC=CC=C4)C5=CC=CC=C5)C6=C2C=C(CI)C=C6)C=C1

Formula $C_{39}H_{33}Cl_3N_2O_5S$ M.Wt 748.11

Solubility Soluble in DMSO Storage Store at -20°C

General For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue Condition ice upon request.

Structure

Protocol

Animal experiment:

Male Sprague–Dawley rats are anesthetized, and 10–20 mL of filtered air is injected subcutaneously under the dorsal skin to form a pouch. Three and six days later, the pouches are reinflated with 10–15 mL of sterile air. On the seventh day, the test compound is dissolved in vehicle (55.5% Phosal 53 MCT, 5.6% Tween 80, 16.7% Labrasol, and 22.2% propylene carbonate) to give 37.5 mg of test compound per mL of vehicle. This test compound in vehicle is diluted with water to the appropriate concentration and dosed at 4 mL/kg. Vehicle treated animals receives the same amount of vehicle as the animals treated with the highest dose of compound. Two hours later, 2 mL of a 1% solution of carrageenan (Viscarin carrageenan type GP-209NF) in saline is injected into the pouch. Six hours after the carrageenan injection, the rats are individually sacrificed and the contents of the pouch are harvested. The amount of fluid recovered is measured. An aliquot of the exudate is centrifuged at 6500 rpm for 10 min, and 300 µL of each supernatant is precipitated with MeOH (800 µL) precooled to 0°C. The samples are well vortexed and are kept at –80°C overnight. The samples are centrifuged again and assayed for PGE2 to locate the PGE2 production within the linear range of the PGE2 standard curve. To minimize the difference in binding environments for the standards and samples, the standard curve is generated in a 1% solution of carrageenan that is mixed with assay buffer to the same dilution as the samples. The approximate ED50 value is extrapolated from the dose–response curve.

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

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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References:

[1]. Lee KL, et al. Discovery of Ecopladib, an indole inhibitor of cytosolic phospholipase A2alpha. J Med Chem. 2007 Mar 22;50(6):1380-400. Epub 2007 Feb 17.

Background

Ecopladib is a sub-micromolar inhibitor of cytosolic phospholipase A2 α (cPLA2 α), with IC50s of 0.15 μ M and 0.11 μ M in the GLU micelle and rat whole blood assays, respectively.

Ecopladib inhibits cPLA2 α in the PAPE liposome assay at 73% at a concentration of 37 nM, while it inhibits sPLA2 at 16% at 1 μ M. Ecopladib inhibits the production of prostaglandins (PGF2 α) and leukotrienes (LTB4 and LTC4/D4/E4) with comparable IC50s of 20-30 nM. Ecopladib is inactive against COX-1 and COX-2 at 20 μ M, which is nearly 100 times the IC50 in the MC-9 cells. Ecopladib inhibit 12- and 15-HETE, which are derived from arachidonic acid via the 12- and 15-lipoxygenase pathways and the IC50s are \sim 0.3 μ M[1].

Ecopladib is orally efficacious in this model and displays an ED50 of 8 mg/kg, demonstrating that it can inhibit COX-2 derived PGE2 formation in vivo. Ecopladib is orally efficacious at reducing carrageenan-induced paw swelling: from dose-response studies, it is determined that the ED50 is 40 mg/kg[1].

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