Product Data Sheet

Product Name: Lipid peroxidation inhibitor 1
Cat. No.: GC31275

Chemical Properties

Cas. No.	142873-41-4		
SMILES	NC1=C(C)C(C)=C(OC(CN2CCC(C3=CC=CC=C3)CC2)(C)C4)C4=C1C		
Formula	$C_{24}H_{32}N_2O$	M.Wt	364.52
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Lipid peroxidation inhibitor 1		

Protocol

Cell experiment:

To rat liver microsomes (S-9) (0.3 mg of protein/40 mM Tris-malate buffer (pH 7.4), 2.4 mL) (2.4 mL) is added a mixture (1:1; 0.1 mL) of aqueous FeCl2 solution (0.25 mM) and NADPH (3 mM). After incubation of the homogenate for 1 h at 37 °C, peroxide production is determined by the thiobarbituric acid method. The inhibitory activities on lipid peroxidation are expressed as IC50 values or percent inhibition as compare with the amount of production in the vehicle (DMSO) group[1].

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Animal experiment:

Five-week old male mice (25 to 35 g) are used. Following a 90 min acclimation period, the test compounds (including Lipid peroxidation inhibitor 1) suspended in 5% gum arabic are injected intraperitoneally in a volume of 20 mL/kg. Thirty minutes after treatment with test compounds, methamphetamine dissolved in saline is injected intraperitoneally at a dose of 1 mg/kg in a volume of 20 mL/kg. Immediately after methamphetamine injection, spontaneous motor activity is monitored for 90 min[1].

References:

[1]. Ohkawa S, et al. 5-aminocoumarans: dual inhibitors of lipid peroxidation and dopamine release with protectiveeffects against central nervous system trauma and ischemia. J Med Chem. 1997 Feb 14;40(4):559-73.

Background

Lipid peroxidation inhibitor 1 is a lipid peroxidation inhibitor with an IC50 of 0.07 μM.

Among the compounds synthesized, Lipid peroxidation inhibitor 1 (26n) exhibits potent effects in the inhibition of lipid peroxidation, with an IC50 of 0.07 μM[1].

Basic molecules 8a and 27 exhibit significant effects against (methamphetamine) MAP-induced hypermotility. Except in these compounds, a phenyl group adjacent to the methyl group in position 2 at a distance seems to be indispensable (compare compounds 26m, o, p with compounds Lipid peroxidation inhibitor 1 (26n), q, r). Among these compounds, Lipid peroxidation inhibitor 1 which has a phenylpiperidinyl group in

position 2 is found to be most effective[1].

[1]. Ohkawa S, et al. 5-aminocoumarans: dual inhibitors of lipid peroxidation and dopamine release with protectiveeffects against central nervous system trauma and ischemia. J Med Chem. 1997 Feb 14;40(4):559-73.