
Product Data Sheet

Product Name: Benzylacyclouridine

Cat. No.: GC63665

Chemical Properties

Cas. No. 82857-69-0

Formula $C_{14}H_{16}N_2O_4$ M.Wt 276.29

Solubility DMSO : 100 mg/mL (361.94 mM; Need ultrasonic) Storage Store at -20°C

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

Structure

Background

Benzylacyclouridine (BAU) is a potent and specific inhibitor of uridine phosphorylase, the first enzyme in the catabolism of uridine. Benzylacyclouridine can modulate the cytotoxic side effects of 5-fluorouracil (5-FU) and its derivatives[1][2][3].

Benzylacyclouridine increases 5-FU-induced cytotoxicity in a number of human cancer cell lines[1]. Benzylacyclouridine (20-100 μ M) reduces the rapid clearance of trace amounts of either [14 C]uridine or hyperphysiologic concentrations of non-labeled uridine by the isolated rat liver perfused with an artificial oxygen carrier[2].

Benzylacyclouridine (p.o. or i.v.) arrests the rapid degradation of a tracer dose of uridine into uracil in dogs and pigs[1]. Benzylacyclouridine exhibits the t_{1/2} of 1.8-3.6 h in dogs, with bioavailability levels of 85% (30 mg/kg) and 42.5% (120 mg/kg) [1]. Benzylacyclouridine (120 mg/kg) exhibits the t_{1/2} of 1.6-2.3 h, with a bioavailability of 40% in pigs[1].

[1]. Pizzorno G, et, al. Phase I clinical and pharmacological studies of benzylacyclouridine, a uridine phosphorylase inhibitor. Clin Cancer Res. 1998 May;4(5):1165-75.

[2]. Monks A, et, al. Effect of 5-benzylacyclouridine, a potent inhibitor of uridine

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

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phosphorylase, on the metabolism of circulating uridine by the isolated rat liver. Biochem Pharmacol. 1983 Jul 1;32(13):2003-9.

[3]. Roosild TP, et, al. Implications of the structure of human uridine phosphorylase 1 on the development of novel inhibitors for improving the therapeutic window of fluoropyrimidine chemotherapy. BMC Struct Biol. 2009 Mar 16;9:14.

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