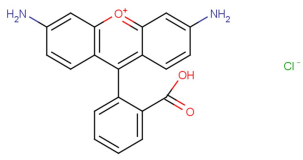
Data Sheet (Cat.No.T16742)

TargetMol
A DRUG SCREENING EXPERT

Rhodamine 110

Chemical Properties



CAS No.:	13558-31-1
Formula:	C20H15ClN2O3
Molecular Weight:	366.8
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Rhodamine 110 is a xanthene dye similar to fluorescein and eosin.
Targets(IC_{50})	Others: None
In vitro	Rhodamine 110 accumulates in mitochondria in a cationic form, which alters the pH in this cellular compartment. No cytotoxicity to human lymphoblastoid cells is observed below 10 μM, but Rhodamine 110 causes Friend leukemia cells to die at a concentrations above 100 μM[1].
In vivo	Rhodamine 110 is less toxic than the parent molecule based on the intravenous LD50 acute toxicity values of 89.5 mg/kg and 140.0 mg/kg for Rhodamine B and Rhodamine 110, respectively. Testis weight increased in male rats dosed with Rhodamine 110. Both molecules induce liver and kidney enlargement after ingestion, and male rats show more significant increases than female rats after Rhodamine 110 exposure. The pharmacokinetics of Rhodamine 110 are assessed following oral administration at two dosages (3 and 10 mg/kg) and intravenous administration at one dosage (3 mg/kg). Pharmacokinetic parameters are calculated using an extravascular input and IV-bolus input, noncompartmental model analysis conducted with WinNonlin Standard Edition. The pharmacokinetic data demonstrate that the AUC is proportional to the administered oral dose of Rhodamine 110 (3 mg/kg and 10 mg/kg). Furthermore, the clearance (Cl) of the two orally administered doses is 7.94 and 8.61 mL/min/kg, respectively[1]. The pharmacokinetic parameters of Rhodamine 110 indicates that the maximum plasma concentrations (Cmax) of the two oral dosages are 283.4 and 657.0 ng/mL, which are reached at 140 and 210 min, respectively. This indicates that Rhodamine 110 absorption is not rapid after ingestion, as it took over 2 h to be absorbed from the intestines into the blood. The areas under the concentration–time curves (AUCs) for the two dosages are 138.1±20.3 and 444.0±170.8 h ng/mL.

Solubility Information

Solubility	DMSO: 25 mg/mL (68.16 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.726 mL	13.631 mL	27.263 mL
5 mM	0.545 mL	2.726 mL	5.453 mL
10 mM	0.273 mL	1.363 mL	2.726 mL
50 mM	0.055 mL	0.273 mL	0.545 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Jiang SH, et al. Pharmacokinetics of Rhodamine 110 and Its Organ Distribution in Rats. J Agric Food Chem. 2017 Sep 6;65(35):7797-7804.

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