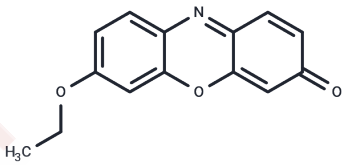
Data Sheet (Cat.No.T21507)

TargetMol

7-Ethoxyresorufin

Chemical Properties



CAS No. : 5725-91-7

Formula: C14H11NO3

Molecular Weight: 241.24

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	7-Ethoxyresorufin (Resorufin ethyl ether) (7-ER) is a fluorometric substrate and competitive inhibitor of cytochrome P450, particularly CYP1A1.
Targets(IC50)	NO Synthase,Cytochromes P450
In vivo	7-ER inhibited responses to NO and nitrergic nerve stimulation through generation of superoxide radicals. A 7-ER sensitive P450 system may be involved in the bioactivation of GTN and SNP in rat aortic rings, but not in rabbit aorta or rat anococcygeus muscles.
Cell Research	Instructions I. Solution preparation 1. Stock solution preparation: 7-Ethoxyresorufin is dissolved in DMSO or ethanol and prepared to 1-10 mM (adjusted according to experimental needs). 2. Working concentration: Usually 0.5-5 μM. (Adjusted according to experimental needs) Notes: 1) Powder: Store dry and away from light at -20°C. 2) Stock solution: Store away from light at -20°C, and can be stored at 4°C for a short period of time to avoid repeated freezing and thawing. II. CYP1A1/CYP1A2 enzyme activity detection Operation steps 1. Sample preparation: Use liver microsomes or cultured cells as samples. Cells need to be pretreated to induce the expression of CYP1A1 or CYP1A2 (such as treatment with benzo[a]pyrene or 3-methylcholanthracene). 2. Reaction system: 1) Prepare reaction buffer (e.g. 50 mM Tris-HCl, pH 7.4). 2) Dilute the stock solution of 7-Ethoxyresorufin to a working concentration (e.g. 2 μM) and add to the buffer. 3) Add NADPH generating system (e.g. NADPH or NADPH regenerating system) to start the reaction. 3. Reaction conditions: 1) Incubate at 37°C for 10-30 minutes (the specific time is optimized according to the experiment). 2) Stop the reaction: The reaction can be terminated by adding an equal volume of cold ethanol or methanol.

Cell Research	3. Fluorescence detection: Resorufin (deethoxylated product) generated by the reaction emits strong green fluorescence: Excitation wavelength: ~530 nm Emission wavelength: ~585 nm Measure the fluorescence signal using a fluorescence spectrophotometer or microplate reader. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble) DMF: 1.92 mg/mL (7.96 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1452 mL	20.7262 mL	41.4525 mL
5 mM	0.829 mL	4.1452 mL	8.2905 mL
10 mM	0.4145 mL	2.0726 mL	4.1452 mL
50 mM	0.0829 mL	0.4145 mL	0.829 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Li CG, Rand MJ. Inhibition of NO-medicate responses by 7-ethoxyresorufin, a substrate and competitive inhibitor of cytochrome P450. Br J Pharmacol. 1996 May;118(1):57-62.
Shaddock JG, Snawder JE, Casciano DA. Cryopreservation and long-term storage of primary rat hepatocytes: effects on substrate-specific cytochrome P450-dependent activities and unscheduled DNA synthesis. Cell Biol Toxicol. 1993 Oct-Dec;9(4):345-57.
Shangguan L, et al. Highly sensitive fluorescent bioassay of 2,3,7,8-tetrachloro-dibenzo-p-dioxin based on abnormal expression of cytochrome P450 1A2 in human cells. Anal Chim Acta. 2019 Jan 10;1046:179-184.