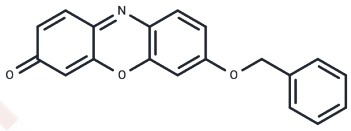
Data Sheet (Cat.No.T37788)

TargetMol

Resorufin benzyl ether

Chemical Properties



CAS No. : 87687-02-3

Formula: C19H13NO3

Molecular Weight: 303.31

Storage: Keep away from direct sunlight
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Resorufin benzyl ether is a fluorogenic enzyme substrate applicable for the detection of CYP3A4 enzyme activity; after modification with boronic acid recognition groups, this compound enables the detection of $ONOO^-$ via a self-immolative mechanism. Ex/Em=530-570 nm/590 nm.
Targets(IC50)	Others
In vitro	Determination of CYP3A4 Activity [2] 1.Prepare the reaction solution a. Prepare a 1 mM stock standard solution with Resorufin benzyl ether as the fluorescent substrate: Take 5 mg of Resorufin benzyl ether and dissolve it in a mixed solution of 1 mL of 2% w/v Poloxamer 188 , 500 μL of dimethyl sulfoxide and 3.5 mL of acetonitrile. b. Freshly prepare the CYP3A4 enzyme solution: Take 5 mL of 1 mM stock enzyme solution and dilute it with 995 μL of buffer to prepare a 5 nM enzyme solution. 2.Perform the CYP3A4 activity assay a. Conduct the reaction in a 96-well plate: Add 99 μL of buffer mixture and 1 mL of 1 mM Resorufin benzyl ether to each well, and adjust the substrate to a final concentration of 5 mM. b. Add 100 μL of 5 nM enzyme solution, then incubate at 37℃ for 30 minutes. c. Set the excitation wavelength (λex=570 nm) and emission wavelength (λem=590 nm), and determine the enzyme activity by fluorometric assay. d. Factors affecting the determination of CYP3A4 activity include buffer type (phosphate buffer, Tris-HCl buffer), buffer concentration (50-200 mM) and incubation time (0-50 min). Determination of CYP3A4 Metabolic Activity [3] 1.Add CYP3A4 enzyme to the reaction system and adjust its final concentration to 5 pmol per well. 2.Add 50 pM substrate and 200 mM potassium phosphate buffer to the reaction system of each well. 3.After co-incubating with BzRes for 45 minutes, detect the fluorescence value of metabolites with the excitation wavelength (Ex)=530 nm and emission wavelength (Em) =590 nm. 4.Calibrate the concentration of the full-strength extract as 100% (diluted at a ratio of 1: 4 in the final assay system). 5.Perform two serial 1:3 dilutions on the 100% extract, and calculate the mean and

In vitro	standard deviation of the fluorescence values.

Solubility Information

Solubility	DMF: 0.15 mg/mL (0.49 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.297 mL	16.4848 mL	32.9696 mL
5 mM	0.6594 mL	3.297 mL	6.5939 mL
10 mM	0.3297 mL	1.6485 mL	3.297 mL
50 mM	0.0659 mL	0.3297 mL	0.6594 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

Ji X, et al. Regulating the activity of boronate moiety to construct fluorescent probes for the detection of ONOO-in vitro and in vivo. Anal Methods. 2022 Dec 15;14(48):5027-5033.
Nuchtavorn N, et al. Paper-based sol-gel thin films immobilized cytochrome P450 for enzyme activity measurement. Anal Chim Acta. 2020 Feb 15;1098:86-93.
Yale SH, et al. Analysis of the inhibitory potential of Ginkgo biloba, Echinacea purpurea, and Serenoa repens on the metabolic activity of cytochrome P450 3A4, 2D6, and 2C9. J Altern Complement Med. 2005 Jun;11(3):433-9.