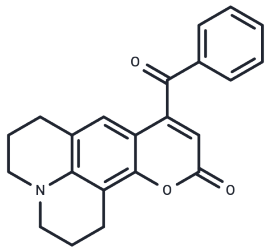
Data Sheet (Cat.No.T41004)

TargetMol

Coumberone

Chemical Properties



CAS No. : 878019-47-7

Formula: C22H19NO3

Molecular Weight: 345.398

Storage: Keep away from direct sunlight
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	Coumberone is a metabolic fluorogenic probe and isoform-selective substrate for all AKR1C isoforms. It can be reduced by all four members of the AKR1C family to its fluorescent alcohol coumberol. Coumberone is a valuable tool for researching AKR1C.
Targets(IC50)	Others
In vitro	Coumberone, at a concentration of 30 μM over 24 hours in HCT116 cells, serves as an AKR1C3 substrate, achieving its peak rates at approximately 10 μM[1]. When applied at 5 μM for 24 hours in COS-1 cells, Coumberone facilitates the selective optical readout of AKR1C isoforms, specifically AKR1C2 or AKR1C3[2]. Similarly, in IMR32 cells under the same conditions, it allows for real-time imaging of AKR1C induction[2]. Moreover, Coumberone metabolism is notably enhanced over 80 hours in IMR-32 cells, displaying a tenfold higher catalytic efficiency for AKR1C3 over AKR1C2 in vitro[2]. Its efficacy is highlighted by the ability to enable real-time AKR1C induction imaging in IMR32 cells with immunofluorescence at a concentration of 5 μM across 24 hours[2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8952 mL	14.476 mL	28.9519 mL
5 mM	0.579 mL	2.8952 mL	5.7904 mL
10 mM	0.2895 mL	1.4476 mL	2.8952 mL
50 mM	0.0579 mL	0.2895 mL	0.579 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

Jamieson SM, et al. A novel fluorometric assay for aldo-keto reductase 1C3 predicts metabolic activation of the nitrogen mustard prodrug PR-104A in human leukaemia cells. Biochem Pharmacol. 2014;88(1):36-45.
Halim M, et al. Imaging induction of cytoprotective enzymes in intact human cells: coumberone, a metabolic reporter for human AKR1C enzymes reveals activation by panaxytriol, an active component of red ginseng. J Am Chem Soc. 2008;130(43):14123-14128.

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