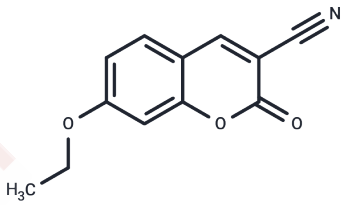
Data Sheet (Cat.No.T7696)

TargetMol

3-Cyano-7-ethoxycoumarin

Chemical Properties



CAS No. : 117620-77-6

Formula: C12H9NO3

Molecular Weight: 215.2

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	3-Cyano-7-ethoxycoumarin is cytochrome P450 (CYP) isoforms CYP1A1 and CYP1A2 .
Targets(IC50)	Others,Cytochromes P450
In vitro	Instructions 1. Solution preparation: 3-Cyano-7-ethoxycoumarin is usually provided in powder form. It can be dissolved in an appropriate solvent (such as DMSO) to prepare a 1-10 mM stock solution. 2. Experimental procedures: 1) Preparation of enzyme reaction system: Add 3-Cyano-7-ethoxycoumarin to the reaction system containing cytochrome P-450 enzyme. The common working concentration is 10-100 μM, but the concentration can be optimized according to the experimental requirements. 2) Appropriate cofactors (such as NADPH) are usually required in the reaction system because cytochrome P-450 requires NADPH as a reducing agent. 3. Enzyme reaction: The reaction system is reacted at an appropriate temperature (usually 37°C) for a period of time, usually 30-60 minutes, and the specific time can be adjusted according to the experimental design. 4. Product detection: After the reaction is completed, the blue fluorescence of the product is detected by a fluorescence spectrophotometer or fluorescence microscope. The excitation wavelength is 410 nm and the emission wavelength is 485 nm, which produces blue fluorescence. 5. Data Analysis: Based on the intensity of the fluorescence signal, the activity of the P-450 enzyme can be analyzed. Higher fluorescence intensity is usually associated with higher enzyme activity. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 16.5 mg/mL (76.67 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.6468 mL	23.2342 mL	46.4684 mL
5 mM	0.9294 mL	4.6468 mL	9.2937 mL
10 mM	0.4647 mL	2.3234 mL	4.6468 mL
50 mM	0.0929 mL	0.4647 mL	0.9294 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

Dong ANet al. Role of P34S, G169R, R296C, and S486T Substitutions in Ligand Access and Catalysis for Cytochrome P450 2D6 Allelic Variants CYP2D6*14A and CYP2D6*14B. Drug Metab Bioanal Lett. 2022;15(1):51-63.
Dong AN, et al. The Molecular and Enzyme Kinetic Basis for Altered Activity of Three Cytochrome P450 2C19 Variants Found in the Chinese Population. Curr Mol Pharmacol. 2020;13(3):233-244.
Dong AN, et al. Functional and structural characterisation of common cytochrome P450 2D6 allelic variants-roles of Pro34 and Thr107 in catalysis and inhibition. Naunyn Schmiedebergs Arch Pharmacol. 2019 Aug;392(8):1015-1029.

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