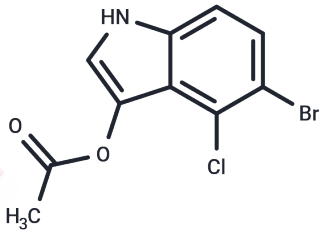
Data Sheet (Cat.No.T18880)

TargetMol

BCDA

Chemical Properties



CAS No. : 3252-36-6

Formula: C10H7BrClNO2

Molecular Weight: 288.53

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	BCDA (5-bromo-4-chloroindoxyl acetate) is a chromogenic substrate utilized to detect esterase activity.
Targets(IC50)	Others
Cell Research	Instructions I. Reagent preparation 1. Mother solution preparation: Use an appropriate solvent (such as dimethyl sulfoxide (DMSO) or an organic solvent) to dissolve BCDA into a solution of a certain concentration. The concentration usually prepared is 0.1-1 mM. 2. Working solution preparation: Adjust the concentration of the solution according to the experimental requirements, and the common concentration range is 0.2 mM to 1 mM. The solution can be freshly prepared before the experiment. II. Operation steps 1. Sample preparation: The sample can be a solution containing esterase, cell or tissue extract. For cell or tissue samples, centrifugation or other treatment may be required to remove cell debris and obtain a clean sample suitable for esterase activity determination. 2. Reaction steps: 1) Substrate addition: Add a certain volume of BCDA solution to the sample, usually at a volume ratio of 1:1 to the esterase sample. 2) Reaction conditions: Incubate the reaction system at a suitable temperature (usually 37°C) for a certain time (usually 30-60 minutes). The specific incubation time can be optimized according to the experimental requirements. 3) Esterase catalytic reaction: Under the action of esterase, BCDA will be hydrolyzed to release bromine and chlorine products, usually obvious blue or green products, which can be detected by spectrophotometer. 3. Measurement: 1) Use a spectrophotometer to measure the absorbance (OD value) at a wavelength of 620 nm or 600 nm. The color product generated by esterase catalysis is positively correlated with the esterase activity. The higher the absorbance value, the stronger the esterase activity. 2) The esterase activity in the sample can be calculated based on the standard curve. 4. Data analysis:

Cell Research	1) The esterase activity is calculated by comparing the absorbance of the sample with the blank control. 2) The reaction kinetics of the esterase can be obtained by measuring the absorbance at multiple different time points. Notes: 1. Solubility: BCDA has poor solubility in water, so it is usually necessary to use organic solvents such as DMSO to prepare the solution. 2. Photosensitivity: BCDA is light-sensitive, so strong light exposure should be avoided during operation and storage to prevent substrate degradation. 3. Experimental conditions: Esterase activity may be affected by factors such as pH value and temperature, so the stability and consistency of experimental conditions should be ensured. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	Ethanol: 100 mg/mL (346.58 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4658 mL	17.3292 mL	34.6584 mL
5 mM	0.6932 mL	3.4658 mL	6.9317 mL
10 mM	0.3466 mL	1.7329 mL	3.4658 mL
50 mM	0.0693 mL	0.3466 mL	0.6932 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

Kaushik S, Stützer K, Ödén J, Fredriksson A, Toma-Dasu I. Adaptive intensity modulated proton therapy using 4D robust planning: a proof-of-concept for the application of dose mimicking approach. Phys Med Biol. 2024 Sep 13;69(18).

Kuluwan Y, Rusuli Y, Ainiwaer M. Monitoring of Lake Ice Phenology Changes in Bosten Lake Based on Bayesian Change Detection Algorithm and Passive Microwave Remote Sensing (PMRS) Data. Sensors (Basel). 2023 Dec 15;23(24):9852.

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