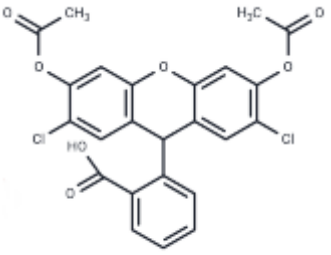
H2DCFDA

#Cat: NB-64-06719-1ml Size: 1 ml
#Cat: NB-64-06719-50mg Size: 50 mg
#Cat: NB-64-06719-100mg Size: 100 mg

Chemical Properties:



CAS No: 4091-99-0

Formula: $C_{24}H_{16}Cl_2O_7$

Molecular Weight: 487.29

Appearance: no data available

Storage: keep away from direct sunlight, store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description:

Description	H2DCFDA (DCFH-DA) belongs to the class of green fluorescent dyes and is a probe for the detection of intracellular reactive oxygen species (ROS) (Ex/Em=488/525 nm) with cell membrane permeability.
Targets (IC50)	Reactive Oxygen Species
In vitro	**METHODS**: Flow cytometry was used to detect ROS levels: 1, H2DCFDA was dissolved into 10 mM DMSO stock solution and further diluted with PBS before use. 2. Adherent cells are incubated with 5 μM H2DCFDA solution for 30 min at 37°C, protected from light, then harvested with 0.05% trypsin-EDTA solution, suspended in fresh medium and immediately analyzed by flow cytometry (488 nm). [1] METHODS: Confocal microscopy was performed to detect ROS levels: 1. H2DCFDA was dissolved into 10 mM DMSO stock solution and further diluted with PBS before use. 2. Coverslips containing cells were placed in 5 μM H2DCFDA staining solution and incubated for 60 min at 37°C, protected from light, then washed and imaged with a confocal laser scanning microscope Leica TCS SL equipped with an argon laser. [1]
In vivo	**METHODS**: Fluorescence microscopy was used to analyze the oxidative activity of LPS induced peritonitis in mice: 1, H2DCFDA was dissolved in 100 μL ethanol and further diluted with PBS before use. 2. C57BL/6J mice were injected intraperitoneally with LPS (0.1-1 mg/mL) to induce peritonitis. 3.5 h later, H2DCFDA (0.1-0.8 mg/ml) was injected intraperitoneally. 3. 30 min after H2DCFDA injection, the animals were killed by cervical dislocation, and the peritoneal cells were recovered by rinsing with 5 mL of ice-cold HBSS solution at pH 7.4. 4. Peritoneal cells were washed and resuspended in PBS. Macrophages were removed by adhesion method after incubation in a polystyrene dish at 37°C for 30 min. The supernatant was recovered and approximately 20,000-25,000 leukocytes were added to microscope slides using a cytocentrifuge. The slides were then analyzed using fluorescence microscopy. [2]

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Solubility Information

Solubility	Ethanol: 14.29 mg/mL (29.33 mM),Sonication is recommended. DMSO: 50 mg/mL (102.61 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0522 mL	10.2608 mL	20.5217 mL
5 mM	0.4104 mL	2.0522 mL	4.1043 mL
10 mM	0.2052 mL	1.0261 mL	2.0522 mL
50 mM	0.041 mL	0.2052 mL	0.4104 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.

Reference

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