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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
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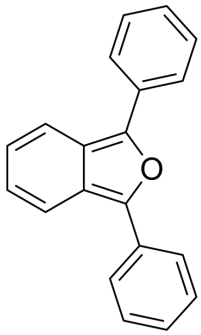
1,3-Diphenylisobenzofuran

Cat. No.:	HY-W011664
CAS No.:	5471-63-6
Molecular Formula:	$C_{20}H_{14}O$
Molecular Weight:	270.33
Target:	Reactive Oxygen Species; Fluorescent Dye
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Others
Storage:	4°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5.56 mg/mL (20.57 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (ultrasonic) (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.6992 mL	18.4959 mL	36.9918 mL
	5 mM	0.7398 mL	3.6992 mL	7.3984 mL
	10 mM	0.3699 mL	1.8496 mL	3.6992 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 0.56 mg/mL (2.07 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 0.56 mg/mL (2.07 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

1,3-Diphenylisobenzofuran (DPBF) has been developed as a selective probe for the detection and quantitative determination of hydrogen peroxide in samples containing different reactive nitrogen and oxygen species (RNOS). DPBF is a fluorescent probe which, for almost 20 years, was believed to react in a highly specific manner toward some reactive oxygen species such as singlet oxygen and hydroxy, alkyloxy or alkylperoxy radicals[1].

In Vitro

General Protocol

Preparation of DPBF working solution

1.1 Preparation of the stock solution

Dissolve 10 mg of DPBF in 3.6992 mL of DMSO to obtain 10 mM of DPBF.

Note: It is recommended to store the stock solution at -20°C, -80°C away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of DPBF working solution
Dilute the stock solution in serum-free cell culture medium or PBS to obtain 20 μM of DPBF working solution.
Note: Please adjust the concentration of DPBF working solution according to the actual situation.

Cell staining
2.1 For suspension cells: Centrifuge at 1000 g at 4°C for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.
For adherent cells: Discard the cell culture medium, and add trypsin to dissociate cells to make a single-cell suspension. Centrifuge at 1000 g at 4°C for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.
2.2 Add 1 mL of DPBF working solution, and then incubate at room temperature for 30 minutes.
2.3 Centrifuge at 400 g at 4°C for 3-4 minutes and then discard the supernatant.
2.4 Wash twice with PBS, 5 minutes each time.
2.5 Resuspend cells with serum-free cell culture medium or PBS, and then detect by fluorescence microscope or flow cytometer.

Precautions
1. It is recommended to store the stock solution at -20°C or -80°C away from light and avoid repetitive freeze-thaw cycles.
2. Please adjust the concentration of DPBF working solution according to the actual situation.
3. This product is for R&D use only, not for drug, household, or other uses.
4. For your safety and health, please wear a lab coat and disposable gloves to operate.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Chem Eng J. 2023 Dec 1, 477, 147195.
- J Control Release. 2023 Jul;359:415-427.
- Mater Today Bio. 2023 Jun 16, 100699.

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REFERENCES

[1]. Bai X, et al. HKOH-1: A Highly Sensitive and Selective Fluorescent Probe for Detecting Endogenous Hydroxyl Radicals in Living Cells. Angew Chem Int Ed Engl. 2017 Oct 9;56(42):12873-12877.

[2]. Weili Fan, et al. Calcium carbonate-methylene blue nanohybrids for photodynamic therapy and ultrasound imaging. Sci China Life Sci. 2018 Apr;61(4):483-491.

[3]. P. Carloni, et al. On the use of 1,3-diphenylisobenzofuran (DPBF). Reactions with carbon and oxygen centered radicals in model and natural systems. Research on Chemical Intermediates volume 19, pages395-405(1993).

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