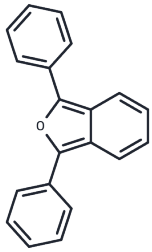
Data Sheet (Cat.No.TD0102)

TargetMol

1,3-Diphenylisobenzofuran

Chemical Properties



CAS No. : 5471-63-6

Formula: C20H14O

Molecular Weight: 270.32

Storage: Keep away from direct sunlight,Store under nitrogen,
Store at low temperature
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	1,3-Diphenylisobenzofuran (DPBF) is a fluorescent probe. It possesses a highly specific reactivity towards singlet oxygen forming an endoperoxide which decomposes to give 1,2-dibenzoylbenzene. 1,3-Diphenylisobenzofuran can detect the generation of reactive oxygen species (ROS).
Targets(IC50)	Others,Reactive Oxygen Species,ROS
Cell Research	I. Cell fluorescence labeling a. Solution preparation: 1. Mother solution preparation: Prepare 10 mM DPBF mother solution with DMSO, store it at -20℃ or -80℃ in the dark after aliquoting. 2. Working solution preparation: Dilute the mother solution with preheated serum-free cell culture medium or PBS to prepare 10-20μM DPBF working solution (select the appropriate working solution concentration according to experimental requirements, and prepare it for immediate use). b. Operation steps: 1. Cell staining: Suspended cells: Collect cells by centrifugation, add PBS and wash twice, 5 minutes each time. Adherent cells: Discard the culture medium and add trypsin to digest the cells. After centrifugation and discarding the supernatant, add PBS and wash twice, 5 minutes each time. If you do not do flow cytometry experiments, adherent cells do not need to be digested. 2. Add DPBF working solution: Add 1mL DPBF working solution and incubate at room temperature for 30 minutes. 3. Centrifugal washing: 400g, 4℃ centrifuge for 3-4 minutes, discard the supernatant. Add PBS to wash the cells twice, 5 minutes each time. 4. Resuspension detection: After resuspending the cells with 1mL serum-free medium or PBS, detect under a fluorescence microscope or flow cytometer. 2. Superoxide anion detection a. Operation steps: 1. Dissolve the nanozyme and DPBF in PBS solution and prepare them to the required concentration. 2. Reaction system construction: Mix the prepared nanozyme and DPBF solution, place

Cell Research	them in an appropriate reaction container, and incubate for 5 minutes. 3. Result detection: Use instruments such as UV-visible spectrophotometer or fluorescence spectrometer to measure the absorbance or fluorescence intensity changes of the solution before and after the reaction (excitation wavelength 410 nm, emission wavelength 455 nm) to evaluate the generation of superoxide anions. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 6.94 mg/mL (25.67 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6993 mL	18.4966 mL	36.9932 mL
5 mM	0.7399 mL	3.6993 mL	7.3986 mL
10 mM	0.3699 mL	1.8497 mL	3.6993 mL
50 mM	0.074 mL	0.3699 mL	0.7399 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

Ohyashiki T, et al. Detection of superoxide anion radical in phospholipid liposomal membrane by fluorescence quenching method using 1,3-diphenylisobenzofuran. Biochim Biophys Acta. 1999 Sep 21;1421(1):131-9.
Carloni P , Damiani E , Greci L , et al. On the use of 1,3-diphenylisobenzofuran (DPBF). Reactions with carbon and oxygen centered radicals in model and natural systems[J]. Research on Chemical Intermediates, 1993, 19(5):395-405.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481