LDS-751

Cat. No.: HY-D0996

CAS No.: 181885-68-7

Molecular Formula: $C_{25}H_{30}ClN_3O_4$

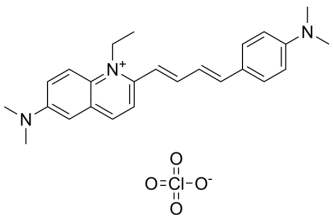
Molecular Weight: 471.98

Target: DNA Stain

Pathway: Cell Cycle/DNA Damage

Storage: -20°C, sealed storage, away from moisture and light

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (176.55 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1187 mL	10.5937 mL	21.1873 mL
	5 mM	0.4237 mL	2.1187 mL	4.2375 mL
	10 mM	0.2119 mL	1.0594 mL	2.1187 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lds-751 is a nucleic acid stain that mainly detects DNA. Lds-751 is a nucleic acid stain that mainly detects DNA. Lds-751 has a high affinity for DNA and fluorescence is enhanced after binding, but the maximum emission wavelength is 670nm. Lds-751 and Thiazole orange can be used for the differentiation of red blood cells, platelets, reticulocytes, and nucleated cells and can be stimulated at 488nm. Studies have shown that LDS-751 binds almost exclusively to mitochondria when incubated with nucleated living cells. After nucleated Acridine Orange (HY-101879) staining and LDS-751 treatment of cells, confocal microscopy revealed almost no co-location of the cells. Staining with Rhodamine 123 (HY-D0816), a dye known to bind polarized mitochondria, was almost identical to the pattern observed with LDS-751[1][2][3].

In Vitro

General Protocol
Preparation of Lds-751 working solution
1.1 Preparation of the stock solution:

Dissolve 10 mg of Lds-751 in 1 mL of ddH_2O.
Note: It is recommended to store the stock solution at 4°C-20°C away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of Lds-751 working solution:
Dilute the stock solution in serum-free cell culture medium or PBS to obtain final concentration 10μg/mL Lds-751 working solution.
Note: Please adjust the concentration of Lds-751 working solution according to the actual situation.

Cell staining
2.1 Cell preparation
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 Fix cells with 3.7% formaldehyde for 10 minutes, discard the fixative and rinsed with PBS for three times, 5 minutes each time.
2.3 Permeate cells with 0.2% Triton X-100 for 5 minutes, wash three times with PBS, 5 minutes each time.
2.4 Add 1 mL of Lds-751 working solution, and then incubate at room temperature for 1-5 minutes.
2.5 Centrifuge at 400 g at 4°C for 3-4 minutes and then discard the supernatant.
2.6 Wash twice with PBS, 5 minutes each time.
2.7 Resuspend cells with serum-free cell culture medium or PBS, and then detect by fluorescence microscope or flow cytometer.

Storage
-20°C, 1 year. Protect from light

Precautions
1. It is recommended to store the stock solution at -20⊠ or -80⊠ away from light and avoid repetitive freeze-thaw cycles.
2. Detect the fluorescence as soon as possible to avoid fluorescence quenching.
3. Lds-751 is sensitive to light, please operate away from light.
4. It is recommended to use AntiFade Mounting Medium (MCE Cat. No.: HY-K1042) to slow the fluorescence quenching.
5. Please adjust the concentration of Lds-751 working solution according to the actual situation.
6. This product is for R&D use only, not for drug, household, or other uses.
7. 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.

PROTOCOL

Cell Assay

Blood samples (1 mL) are obtained using a sterile Butterfly-21 needle and plastic syringe from the antecubital vein of normal healthy volunteers who have given their informed consent. They are immediately transferred to plastic tubes containing 17.3 mg of phenylmethylsulphonyl fluoride (PMSF) and 1 mL of LDS-751 at room temperature. Aliquots (25 μL) are incubated for 5 min with between 2 μL and 5 μL of undiluted monoclonal antibodies, then diluted with 0.5 mL of 1% BSA in Hepesbuffered Hanks' balanced salts solution (HHBSS) and examined by flow cytometry[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Terstappen LW, et al. A rapid sample preparation technique for flow cytometric analysis of immunofluorescence allowing absolute enumeration of cell subpopulations. J Immunol Methods. 1989 Sep 29;123(1):103-12.

[2]. Terstappen LW, et al. A rapid sample preparation technique for flow cytometric analysis of immunofluorescence allowing absolute enumeration of cell subpopulations. J Immunol Methods. 1989 Sep 29;123(1):103-12.

[3]. Terstappen LW, et al. Five-dimensional flow cytometry as a new approach for blood and bone marrow differentials. Cytometry. 1988;9(6):548-556.

[4]. McCarthy DA, et al. A simple flow cytometric procedure for the determination of surface antigens on unfixed leucocytes in whole blood. J Immunol Methods. 1993;163(2):155-160.

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