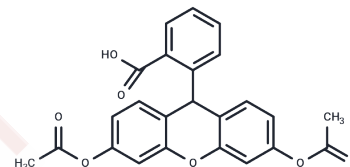


## Dihydrofluorescein diacetate

## Chemical Properties

CAS No. :	35340-49-9
Formula:	C <sub>24</sub> H <sub>18</sub> O <sub>7</sub>
Molecular Weight:	418.4
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	Dihydrofluorescein diacetate (Diacetyldihydrofluorescein) is a fluorescent probe for measuring oxidative stress in cell-free systems and cellular models.
Targets(IC50)	Others
In vitro	Dihydrofluorescein diacetate is able to detect the presence of ROS in mitochondria. Dihydrofluorescein diacetate fluorescence sharply delineates filaments that correspond in all detail to TMRM-stained mitochondria. It enters mitochondria and reacts with ROS released in the matrix[1]. Dihydrofluorescein diacetate may be a useful quantitative method to measure the oxidation potential of nanoparticle-treated cells[2]. Dihydrofluorescein diacetate shows fluorescence of linear structures, consistent with mitochondria, in reoxygenated endothelium[3].
Cell Research	Dihydrofluorescein diacetate to measure intracellular ROS levels Operation steps 1. Cell culture: Cultivate cells in a normal way until they are in a suitable state. 2. Dye treatment: Add 20 μM DHF for 30 minutes. 3. Rinse with PBS to remove residual dye. 4. Observe the fluorescence intensity under a microscope to determine the ROS level in mitochondria.  The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

## Solubility Information

Solubility	DMSO: 100 mg/mL (239.01 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.3901 mL	11.9503 mL	23.9006 mL
5 mM	0.478 mL	2.3901 mL	4.7801 mL
10 mM	0.239 mL	1.195 mL	2.3901 mL
50 mM	0.0478 mL	0.239 mL	0.478 mL

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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

Diaz G, et al. Mitochondrial localization of reactive oxygen species by dihydrofluorescein probes. *Histochem Cell Biol.* 2003 Oct;120(4):319-25.

Aranda A, et al. Dichloro-dihydro-fluorescein diacetate (DCFH-DA) assay: a quantitative method for oxidative stress assessment of nanoparticle-treated cells. *Toxicol In Vitro.* 2013 Mar;27(2):954-63.

Hempel SL, et al. Dihydrofluorescein diacetate is superior for detecting intracellular oxidants: comparison with 2', 7'-dichlorodihydrofluorescein diacetate, 5(and 6)-carboxy-2',7'-dichlorodihydrofluorescein diacetate, and dihydrorhodamine 123. *Free Radic Biol Med.* 1999 Jul;27(1-2):146-59.

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