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DATASHEET

H2DCFDA

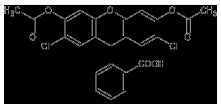
Product overview

Name	H2DCFDA
Cat No	HB8322
Biological description	Cell-permeable, fluorescent dye for ROS (reactive oxygen species e.g. H_20_2) and NO (nitric oxide) detection. Commonly used for detection of ROS generation and to assess oxidative stress and redox status in cells and mitochondrial preparations. Fluorescence can be monitored using a flow cytometer, fluorometer, microplate reader, or fluorescence microscope, using excitation sources and filters suitable for fluorescein.
Biological action	Dyes & stains
Purity	>95%
Description	Fluorescent dye for ROS and oxidative stress detection. Used to measure redox state of a cell.

Solubility & Handling

Storage instructions	-20°C
Solubility overview	Soluble in DMSO (100 mM), and in ethanol (10 mM)
Storage of solutions	Prepare and use solutions on the same day if possible. Store solutions at -20°C for up to one month if storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.
Shipping Conditions	Stable for ambient temperature shipping. Follow storage instructions on receipt.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	2-[3,6-Bis(acetyloxy)-2,7-dichloro-9H-xanthen-9-yl]benzoic acid
Molecular Weight	485.27
Chemical structure	
Molecular Formula	$C_{24}H_{14}Cl_2O_7$
CAS Number	4091-99-0
PubChem identifier	77718
SMILES	CC(=O)OC1=C(C=C2C(C3=CC(=C(C=C3OC2=C1)OC(=O)C)Cl)C4=CC=CC=C4C(=O)O)Cl
InChiKey	PXEZTIWVRVSYOK-UHFFFAOYSA-N
Excitation	485nm
Emission	535nm

References

Detection of Total Reactive Oxygen Species in Adherent Cells by 2',7'-Dichlorodihydrofluorescein Diacetate Staining.

Kim H et al (2020) Journal of visualized experiments : JoVE

PubMedID 32658187

The involvement of TLR2 in cytokine and reactive oxygen species (ROS) production by PBMCs in response to Leishmania major phosphoglycans (PGs).

Kavoosi G et al (2009) Parasitology 136

PubMedID 19631014