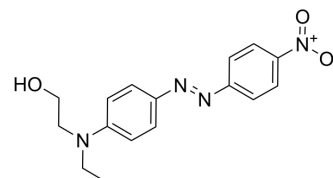


Disperse Red 1

Cat. No.:	HY-D0342
CAS No.:	2872-52-8
Molecular Formula:	C ₁₆ H ₁₈ N ₄ O ₃
Molecular Weight:	314.34
Target:	Fluorescent Dye
Pathway:	Others
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 83.33 mg/mL (265.10 mM; Need ultrasonic)				
	Preparing Stock Solutions	<div>Solvent Concentration</div>	Mass		
			1 mg	5 mg	10 mg
		1 mM	3.1813 mL	15.9063 mL	31.8127 mL
		5 mM	0.6363 mL	3.1813 mL	6.3625 mL
	10 mM	0.3181 mL	1.5906 mL	3.1813 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: ≥ 2.08 mg/mL (6.62 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Disperse Red 1, an azobenzene derivative, is an azo textile dye extensively used for dyeing polyester fabrics in textile industry ^{[1][2]} .
In Vitro	Exposure of human lymphocytes and a human hepatoma (HepG2) cell line to Disperse Red 1 in vitro at concentrations of 1.0 µg/mL and 2.0 µg/mL increases the frequency of micronuclei and also causes mutations in the Salmonella assay (13 revertants/µg) ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	To assess the toxic effects of Disperse Red 1 (DR1), on reproduction, sexually mature male mice (Mus musculus, strain CF-1) are orally (gavage) treated with single doses of the compound (20-500 mg/kg). Disperse Red 1 treatment causes testicular toxicity, increases frequency of sperm with abnormal morphology and decreases fertility. An increased amount of DNA damage is also detected in testis cells 16.6 and 24.9 days after treatments with 100 and 500 mg/kg ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Laís da Silva Leite, et al. Monitoring Ecotoxicity of Disperse Red 1 Dye During photo-Fenton Degradation. Chemosphere. 2016 Apr;148:511-7.
- [2]. Fábio Henrique Fernandes, et al. Disperse Red 1 (Textile Dye) Induces Cytotoxic and Genotoxic Effects in Mouse Germ Cells. Reprod Toxicol. 2015 Jun;53:75-81.
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Caution: Product has not been fully validated for medical applications. For research use only.

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