Product Data Sheet

Product Name: 1,4-Chrysenequinone (Chrysene-1,4-dione)
Cat. No.: GC33314

Chemical Properties

Cas. No.	100900-16-1		
SMILES	O=C(C1=C2C=CC3=C1C=CC4=CC=CC=C43)C=CC2=O		
Formula	$C_{18}H_{10}O_2$	M.Wt	258.27
Solubility	DMSO: 3.33 mg/mL (12.89 mM)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Protocol

Cell experiment:	Mouse hepatoma (H1L1.1c2) cells (1.5 × 105 cells/well) are cultured in 96-well culture plates, and samples (1,4-Chrysenequinone) dissolved in dimethyl sulfoxide are added to the medium to achieve a final solvent concentration of 1%. After the plates are incubated at 37°C in 5% CO2 for 24 h, the cell viability is confirmed under a microscope. Subsequently, the medium is removed, and the cells are lysed. Adding luciferin as the substrate, the luciferase activity is determined under a luminometer and reported as relative light units. The concentrations producing luciferase activity equal to 25% of the maximal response to TCDD are calculated and also referred to as the ECTCDD25. The ratios of the ECTCDD25 of B[a]P to the ECTCDD25 of each of the compounds are calculated and referred to as IEFs[1].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

References:

[1]. Misaki K, et al. Aryl hydrocarbon receptor ligand activity of polycyclic aromatic ketones and polycyclic aromatic quinones. Environ Toxicol Chem. 2007 Jul;26(7):1370-9.

Background

1,4-Chrysenequinone (Chrysene-1,4-dione), a polycyclic aromatic quinone, acts as an activator of aryl hydrocarbon receptor (AhR).

1,4-Chrysenequinone shows significant AhR ligand activity, with ECTCDD25s (concentration equivalent with 25% of TCDD max) of 9.7 nM and 1.9 μM in yeast and mouse hepatoma cell systems, respectively[1].

[1]. Misaki K, et al. Aryl hydrocarbon receptor ligand activity of polycyclic aromatic ketones and polycyclic aromatic quinones. Environ Toxicol Chem. 2007 Jul;26(7):1370-9.

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