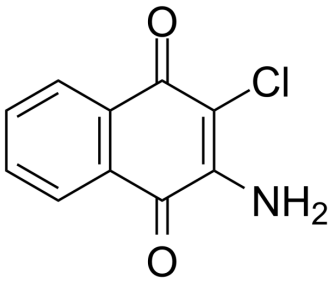
Quinoclamine

Cat. No.:	HY-121632
CAS No.:	2797-51-5
Molecular Formula:	$C_{10}H_6ClNO_2$
Molecular Weight:	207.61
Target:	NF-κB
Pathway:	NF-κB
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1204.18 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.8167 mL	24.0836 mL	48.1672 mL
	5 mM	0.9633 mL	4.8167 mL	9.6334 mL
	10 mM	0.4817 mL	2.4084 mL	4.8167 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 (10.02 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Quinoclamine, a naphthoquinone derivative, is a NF-κB inhibitor. Quinoclamine exhibits anti-cancer activity[1][2].

IC_{50} & Target

NF-κB[2]

In Vitro

Quinoclamine causes differentiation of U-937 cells into macrophage-like cells[1].
Quinoclamine inhibits NF-κB activities in HepG2 cells, with an IC_{50} of 1.7 μM[2].
Quinoclamine (1-4 μM; 30 minutes) suppresses endogenous NF-κB activity in HepG2 cells through the inhibition of IκB-α phosphorylation and p65 translocation[2].
Quinoclamine inhibits induced NF-κB activities in lung and breast cancer cell lines[2].
Quinoclamine affects the expression levels of genes involved in cell cycle or apoptosis[2].
Quinoclamine down-regulates the expressions of UDP glucuronosyltransferase genes involved in phase II drug metabolism [2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	HepG2 cells
Concentration:	1 μM, 2 μM, 4 μM, 8 μM, 16 μM, 32 μM, 64 μM
Incubation Time:	24 hours
Result:	Inhibited NF-κB activities in HepG2 cells.

Western Blot Analysis[2]

Cell Line:	HepG2 cells
Concentration:	0 μM, 1 μM, 2 μM, 4 μM
Incubation Time:	30 minutes
Result:	Inhibited IκB-α phosphorylation and p65 translocation in HepG2 cells.

CUSTOMER VALIDATION

- Int J Biol Macromol. 2021 Apr 24.

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REFERENCES

[1]. Kwon H ,et al. Induction of differentiation of U-937 cells by 2-chloro-3-amino-1,4-naphthoquinone. Res Commun Mol Pathol Pharmacol. 1997 Aug;97(2):215-27.

[2]. Cheng WY, et al. Comprehensive evaluation of a novel nuclear factor-kappaB inhibitor, quinoclamine, by transcriptomic analysis. Br J Pharmacol. 2009 Jul;157(5):746-56.

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