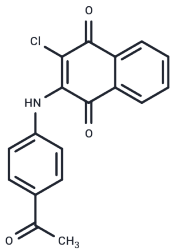
Data Sheet (Cat.No.T3757)

TargetMol

NQ301

Chemical Properties



CAS No. : 130089-98-4

Formula: C18H12ClNO3

Molecular Weight: 325.75

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	NQ301, an antithrombotic agent, inhibits collagen-challenged rabbit platelet aggregation (IC50: 10 mg/mL).
Targets(IC50)	Platelet aggregation,Thrombin
In vitro	NQ301 dose-dependently inhibits collagen (10 mg/mL, IC50: 0.60±0.02 μM), U46619 (1 mg/mL, IC50: 0.58±0.04 μM) and arachidonic acid (100 mg/mL, IC50: 0.78±0.04 μM) challenged rabbit platelet aggregation. NQ301 potently suppresses thromboxane B2 formation by platelets that are exposed to arachidonic acid in a concentration-dependent manner, but had no effect on the production of prostaglandin D2, indicating an inhibitory effect on thromboxane A2 synthase. NQ301 markedly inhibits the increase of cytosolic Ca2+ concentration and ATP secretion, and also markedly increases platelet cAMP levels in the activated platelets. The antiplatelet activity of NQ301 may be mediated by inhibition of cytosolic Ca2+ mobilization, enhancement of cAMP production and inhibition of ATP secretion in activated platelets.
Kinase Assay	Compounds are dissolved in DMSO (5 mg/mL) and diluted with PBS/EtOH (70:30).Kinetic analyses are carried out for TB5 and TB8. A set of Lineweaver-Burk plots are constructed in the absence and presence of various concentrations of compounds TB5 and TC8. The set consists of five graphs, each constructed by measuring MAO-B and MAO-A catalytic rates at different substrate concentrations (0.1-1 μM). The first Lineweaver-Burk plot is constructed in the absence of inhibitor, while the remaining four graphs are constructed in the presence of different concentrations of TB5 and TB8[1].
Cell Research	ished rabbit platelet suspension is challenged by addition of collagen (10 mg/mL), arachidonic acid (100 μM) or U46619 (1 μM). Concentration- response relationship is determined in the absence or presence of a range of concentrations of NQ301 (0, 0.25, 0.5, 0.75, 1 μM); aspirin-treated platelets (50 μM for 5 min) are used to prevent any possible contribution of endogenous arachidonic acid metabolites to platelet aggregation. The resulting aggregation, measured as the change in light transmission, is recorded for 5 min. The extent of platelet aggregation is expressed as % of the control [1].

Solubility Information

Solubility	DMSO: 6.88 mg/mL (21.11 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0698 mL	15.3492 mL	30.6984 mL
5 mM	0.614 mL	3.0698 mL	6.1397 mL
10 mM	0.307 mL	1.5349 mL	3.0698 mL
50 mM	0.0614 mL	0.307 mL	0.614 mL

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.

Reference

Jin YR, et al. An antithrombotic agent, NQ301, inhibits thromboxane A2 receptor and synthase activity in rabbit platelets. Basic Clin Pharmacol Toxicol. 2005 Sep;97(3):162-7.

Zhang YH, et al. Antiplatelet effect of 2-chloro-3-(4-acetophenyl)-amino-1,4-naphthoquinone (NQ301): a possible mechanism through inhibition of intracellular Ca2+ mobilization. Biol Pharm Bull. 2001 Jun;24(6):618-22.