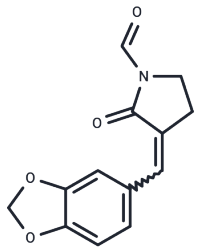
Data Sheet (Cat.No.T2444)

TargetMol

KNK437

Chemical Properties



CAS No. : 218924-25-5

Formula: C13H11NO4

Molecular Weight: 245.23

Appearance: no data available

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

Biological Description

Description	KNK437 (Heat Shock Protein Inhibitor I), a pan-HSP inhibitor, suppresses the synthesis of inducible HSPs(HSP105, HSP72, and HSP40).
Targets(IC50)	HSP
In vivo	KNK437 (200 mg/kg, i.p.) shows no antitumor effects and does not increase the thermosensitivity of nontolerant tumors. The same dose of KNK437 enhances the antitumor effects of fractionated heat treatment in a synergistic manner.[3]
Kinase Assay	Metabolic Labeling and Gel Electrophoresis: COLO 320DM cells (200,000) are injected into each well of 12-well plastic plates 2 days before incubation in the presence of KNK437 for 1 h before heat shock. The cells are then heat-shocked at 42°C for 90 min or kept at 37°C for the same length of time and incubated at 37°C for 2 h. For metabolic labeling, cells are washed with PBS without Ca2+ or Mg2+ and incubated for 1 h with 1.22 MBq of [35S]methionine in 250 µL of methionine-free DMEM supplemented with 10% dialyzed fetal bovine serum. After metabolic labeling, cells are washed twice with PBS and lysed in a buffer containing 1% NP40, 0.15 M NaCl, 50 mM Tris-HCl (pH 8.0), 5 mM EDTA, and protease inhibitors [0.2 mM 4-(2-aminoethyl)benzenesulfonyl fluoride hydrochloride, 2 mM N-ethylmaleimide, 1 µg/mL pepstatin, and 1 µg/mL leupeptin]. After centrifugation at 12,000×g for 20 min, cell extracts containing equal amounts of trichloroacetic acid-insoluble radioactivity are analyzed by two-dimensional gel electrophoresis (the one-dimensional gel electrophoresis is a nonequilibrium pH gradient gel electrophoresis, and the two-dimensional gel electrophoresis is 10% SDS-PAGE).
Cell Research	Thermotolerance is induced by incubating cells with 300 µM sodium arsenite for 90 min. Cells are preincubated with or without 100 µM KNK437 for 1 h before the sodium arsenite treatment. After treatment of the cells with sodium arsenite, cells are washed once with PBS and incubated at 37°C for 5 h with or without KNK437. The effects of KNK437 on acquired thermotolerance are tested by heating the cells at 45°C for the indicated time. The surviving fraction is calculated as the plating efficiency of the treated cells divided by the plating efficiency of untreated control cells.(Only for Reference)

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 12 mg/mL (48.93 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0778 mL	20.389 mL	40.778 mL
5 mM	0.8156 mL	4.0778 mL	8.1556 mL
10 mM	0.4078 mL	2.0389 mL	4.0778 mL
50 mM	0.0816 mL	0.4078 mL	0.8156 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

Yokota S, et al. Cancer Res. 2000, 60(11), 2942-2948.
Sahin E, et al. Int J Hyperthermia. 2011, 27(1), 63-73.
Koishi M, et al. Clin Cancer Res. 2001, 7(1), 215-219.