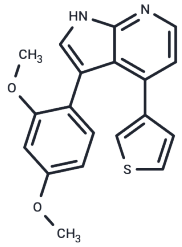
Data Sheet (Cat.No.T5993)

TargetMol

ARN-3236

Chemical Properties



CAS No. : 1613710-01-2

Formula: C19H16N2O2S

Molecular Weight: 336.41

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	ARN-3236 is an orally active and selective inhibitor of salt-inducible kinase 2 (SIK2), with IC50 values of <1 nM for SIK2, 21.63 nM for SIK1, and 6.63 nM for SIK3. ARN-3236 exhibits anti-cancer activity.
Targets(IC50)	AMPK,SIK
In vitro	Salt-inducible kinase 2 (SIK2) is overexpressed in approximately 30% of high-grade serous ovarian cancers.?ARN-3236 inhibited the growth of 10 ovarian cancer cell lines at an IC50 of 0.8 to 2.6 μmol/L, where the IC50 of ARN-3236 was inversely correlated with endogenous SIK2 expression (Pearson r = -0.642, P = 0.03).?ARN-3236 enhanced sensitivity to paclitaxel in 8 of 10 cell lines, as well as in SKOv3ip (P = 0.028) and OVCAR8 xenografts.?In at least three cell lines, a synergistic interaction was observed.?ARN-3236 uncoupled the centrosome from the nucleus in interphase, blocked centrosome separation in mitosis, caused prometaphase arrest, and induced apoptotic cell death and tetraploidy.?ARN-3236 also inhibited AKT phosphorylation and attenuated survivin expression.
Cell Research	SIK2 expression was determined in ovarian cancer tissue samples and cell lines.?ARN-3236 was tested for its efficiency to inhibit growth and enhance paclitaxel sensitivity in cultures and xenografts of ovarian cancer cell lines.?SIK2 siRNA and ARN-3236 were compared for their ability to produce nuclear-centrosome dissociation, inhibit centrosome splitting, block mitotic progression, induce tetraploidy, trigger apoptotic cell death and reduce AKT/survivin signaling.

Solubility Information

Solubility	DMSO: 130 mg/mL (386.43 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (11.89 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9726 mL	14.8628 mL	29.7256 mL
5 mM	0.5945 mL	2.9726 mL	5.9451 mL
10 mM	0.2973 mL	1.4863 mL	2.9726 mL
50 mM	0.0595 mL	0.2973 mL	0.5945 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zhou J , Alfraidi A , Zhang S , et al. A novel compound ARN-3236 inhibits Salt Inducible Kinase 2 and sensitizes ovarian cancer cell lines and xenografts to paclitaxel[J]. Clinical Cancer Research, 2016:1078-0432.CCR-16-1562.
Liu Y, Tang W, Ji C, et al. The selective SIK2 inhibitor ARN-3236 produces strong antidepressant-like efficacy in mice via the hippocampal CRTC1-CREB-BDNF pathway. Frontiers in pharmacology. 2020, 11.
Zou L, Hong D, Li K, et al. Salt-inducible kinase 2 (SIK2) inhibitor ARN-3236 attenuates bleomycin-induced pulmonary fibrosis in mice. BMC Pulmonary Medicine. 2022, 22(1): 1-11
Liu Y, Tang W, Ji C, et al. The selective SIK2 inhibitor ARN-3236 produces strong antidepressant-like efficacy in mice via the hippocampal CRTC1-CREB-BDNF pathway[J]. Frontiers in pharmacology. 2020, 11.