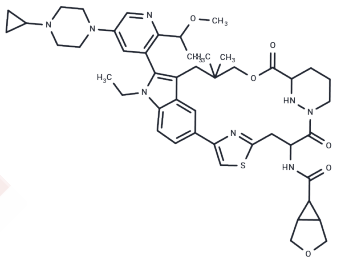
Data Sheet (Cat.No.T81263)

TargetMol

RMC-7977

Chemical Properties



CAS No. : 2765082-12-8

Formula: C47H60N8O6S

Molecular Weight: 865.09

Storage: Store at low temperature,Keep away from moisture
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	RMC-7977 is a highly selective inhibitor of the active (GTP-bound) forms of KRAS, HRAS, and NRAS with anticancer activity for the study of solid tumors with KRAS G12C mutations.
Targets(IC50)	Apoptosis,ERK,Raf,AMPK,PARP,S6 Kinase,Ras,Kras
In vitro	**METHODS**: U2OS cells were treated with 50 nM RMC-7977 to observe the formation of KRAS-CYPA complexes and disruption of KRAS(G12V)-CRAF interactions using a live-cell nano-bioluminescence resonance energy transfer (BRET) kinetic assay. **RESULTS**: RMC-7977 induced KRAS and CYPA binding and dissociated the CRAF RBD from KRAS at the same fast rate (signaling half-life (t1/2) < 5 min).[1] **METHODS**: RAS-dependent (KRAS, NRAS, or EGFR mutated) cancer cells treated with RMC-7977 (0.1,1,10,100,100 nM) were compared for activity of RMC-7977 in cancer cells harboring various activating mutations in the RAS pathway, specifically oncogenic variants of KRAS, NRAS, EGFR, or BRAF. **RESULTS**: Exhibited concentration-dependent inhibition of downstream signaling and proliferation in the low nanomolar range.[1]
In vivo	**METHODS**: U2OS cells were treated with 50 nM RMC-7977 to observe the formation of KRAS-CYPA complexes and disruption of KRAS(G12V)-CRAF interactions using a live-cell nano-bioluminescence resonance energy transfer (BRET) kinetic assay. **RESULTS**: RMC-7977 induced KRAS and CYPA binding and dissociated the CRAF RBD from KRAS at the same fast rate (signaling half-life (t1/2) < 5 min).[1] **METHODS**: RAS-dependent (KRAS, NRAS, or EGFR mutated) cancer cells treated with RMC-7977 (0.1,1,10,100,100 nM) were compared for activity of RMC-7977 in cancer cells harboring various activating mutations in the RAS pathway, specifically oncogenic variants of KRAS, NRAS, EGFR, or BRAF. **RESULTS**: Exhibited concentration-dependent inhibition of downstream signaling and proliferation in the low nanomolar range.[1]

Solubility Information

Solubility	DMSO: 120 mg/mL (138.71 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1559 mL	5.7797 mL	11.5595 mL
5 mM	0.2312 mL	1.1559 mL	2.3119 mL
10 mM	0.1156 mL	0.578 mL	1.1559 mL
50 mM	0.0231 mL	0.1156 mL	0.2312 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

Singh M, et al. Concurrent inhibition of oncogenic and wild-type RAS-GTP for cancer therapy. Research Square; 2023.

Wasko UN, et al. Tumor-selective effects of active RAS inhibition in pancreatic ductal adenocarcinoma. bioRxiv [Preprint]. 2023 Dec 4:2023.12.03.569791.