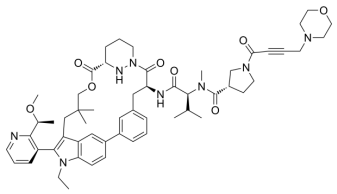
RM-018

Cat. No.:	HY-141477
CAS No.:	2641993-55-5
Molecular Formula:	$C_{56}H_{72}N_8O_8$
Molecular Weight:	985.22
Target:	Ras
Pathway:	GPCR/G Protein
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 : 60 mg/mL (60.90 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.0150 mL	5.0750 mL	10.1500 mL
	5 mM	0.2030 mL	1.0150 mL	2.0300 mL
	10 mM	0.1015 mL	0.5075 mL	1.0150 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

RM-018 is a potent, functionally distinct tricomplex KRAS^{G12C} active-state inhibitor. RM-018 retains the ability to bind and inhibit KRAS$^{G12C/Y96D}$ and could overcome resistance. RM-018 binds specifically to the GTP-bound, active ["RAS(ON)"] state of KRAS^{G12C}[1].

IC_{50} & Target	KRAS (G12C)	KRAS (G12C/Y96D)

In Vitro

RM-018 is a "tricomplex" KRAS inhibitor, which exploits a highly abundant chaperone protein, cyclophilin A, to bind and inhibit KRAS^{G12C}[1].

?RM-018 (0.01-1000 nM; 72 hours) has IC_{50}s of 1.4-3.5 nM (KRAS^{G12C}) and 2.8-7.3 nM (KRAS$^{G12C/Y96D}$) in NCI-H358, MIA PaCa-2, Ba/F3, and MGH1138-1 cells[1].

?RM-018 (0-100 nM; 4 hours) inhibits the expression of KRAS, pERK, and pRSK protein[1].

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

Cell Viability Assay[1]

Cell Line:	NCI-H358, MIA PaCa-2, Ba/F3, and MGH1138-1 cells, which stably infected with $KRAS^{G12C}$ or $KRAS^{G12C/Y96D}$.
Concentration:	0.01-1000 nM
Incubation Time:	72 hours
Result:	Inhibited the cell activity, but largely unaffected by $KRAS^{G12C/Y96D}$ expression.

Western Blot Analysis[1]

Cell Line:	MIA PaCa-2, HEK293T and MGH1138-1 cells, which expressing $KRAS^{G12C}$ or $KRAS^{G12C/Y96D}$.
Concentration:	0-100 nM
Incubation Time:	4 hours
Result:	Inhibited KRAS, pERK and pRSK levels with similar potency.

REFERENCES

[1]. Tanaka N, et.al. Clinical Acquired Resistance to $KRAS^{G12C}$ Inhibition through a Novel KRAS Switch-II Pocket Mutation and Polyclonal Alterations Converging on RAS-MAPK Reactivation. Cancer Discov. 2021 Aug;11(8):1913-1922.

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