Exarafenib

Cat. No.: HY-147268

CAS No.: 2639957-39-2

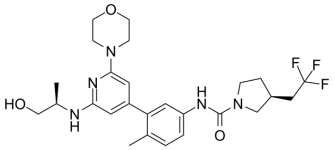
Molecular Formula: $C_{26}H_{34}F_3N_5O_3$

Molecular Weight: 521.58

Target: Raf; p38 MAPK

Pathway: MAPK/ERK Pathway

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (191.73 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9173 mL	9.5863 mL	19.1725 mL
	5 mM	0.3835 mL	1.9173 mL	3.8345 mL
	10 mM	0.1917 mL	0.9586 mL	1.9173 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.79 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Exarafenib (RAF/KIN_2787) is an orally-available, selective pan-RAF inhibitor. Exarafenib is effective in RAF-dependent cancers, including all classes of BRAF alterations. Exarafenib suppresses MAPK signaling in RAF-dependent melanoma cell lines. Exarafenib has anticancer activity[1][2].

IC_{50} & Target	RAF	p38 MAPK

In Vitro

Exarafenib (RAF/KIN_2787; 1-10000 nM; 24 h) inhibits RAF-dependent melanoma cell line growth. Exarafenib suppresses MAPK signaling in RAF-dependent melanoma cell lines[1].

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

Cell Viability Assay[1]

Cell Line:	Melanoma cell (A375 $BRAF^{V600E}$, HMVII $BRAF^{G469V}$; $NRAS^{Q61K}$, WM3629 $BRAF^{D594G}$; $NRAS^{G12D}$, SKMEL2 $NRAS^{Q61R}$)
Concentration:	1-10000 nM
Incubation Time:	24 h
Result:	Inhibited RAF-dependent melanoma cell line growth.

In Vivo

Exarafenib (RAF/KIN_2787; 3-30 mg/kg; Orally; twice daily; 29 days) is effective against $BRAF^{mut}$ & $NRAS^{mut}$ human melanoma xenografts in vivo[1].

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

Animal Model:	BALB/c nude mice xenograft models of BRAF and NRAS-mutant melanoma[1]
Dosage:	3, 5, 10, 20, 30 mg/kg
Administration:	Orally; twice daily (BID); 29 days
Result:	Was effective against $BRAF^{mut}$ & $NRAS^{mut}$ human melanoma xenografts in vivo.

REFERENCES

[1]. Miller N, et, al. Antitumor activity of KIN-2787, a next-generation pan-RAF inhibitor, in combination with MEK inhibition in preclinical models of human NRAS mutant melanoma.2022 Jun 2;40(16): e15099.

[2]. WHO Drug Information. International Nonproprietary Names for Pharmaceutical

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