Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Refametinib

Catalog No: tcsc1818

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
923032-37-5

Formula:
$C_{19}H_{20}F_3IN_2O_5S$

Pathway:
MAPK/ERK Pathway

Target:
MEK

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 31 mg/mL (54.16 mM)

Alternative Names:
BAY 869766;RDEA119

Observed Molecular Weight:
572.34

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Product Description

Refametinib is a potent, selective, allosteric **MEK1**/**MEK2** inhibitor with **IC_{50}**s of 19 nM and 47 nM, respectively.

IC50 & Target: IC50: 19 nM (MEK1), 47 nM (MEK2)[1]

In Vitro: Refametinib (RDEA119, BAY 869766) selectively binds directly to an allosteric pocket in the MEK1/2 enzymes. Refametinib potently inhibits MEK activity in enzyme inhibition assays in a non-ATP-competitive manner (MEK1 IC_{50}=19 nM, MEK2 IC_{50}=47 nM) determined through incorporation of radioactive phosphate from ATP into ERK as substrate. Refametinib potently inhibits MEK activity as measured by phosphorylation of ERK1/2 across several human cancer cell lines of different tissue origins and BRAF mutational status with EC_{50} values ranging from 2.5 to 15.8 nM. Refametinib inhibits anchorage-dependent growth of human cancer cell lines harboring the gain-of-function V600E BRAF mutant with GI_{50} values ranging from 67 to 89 nM. In contrast, Refametinib has significantly less growth-inhibitory potency against cell lines with wild-type BRAF (A431 cells) or MDA-MB-231 cells harboring a BRAF mutation G464V that shows minimal (50 values for all cell lines tested are similar (40-84 nM). MDA-MB-231 and A431 cells are significantly more sensitive to Refametinib under anchorage-independent conditions[1].

In Vivo: Refametinib (RDEA119, BAY 869766) is an orally available, potent, non-ATP-competitive, highly selective inhibitor of MEK1/2, which is active in human tumor xenograft models and is well tolerated within the therapeutic exposure range in animals.The human melanoma A375 tumor xenograft is found to be sensitive to Refametinib treatment with 54% and 68% tumor growth inhibition (TGI) seen with 25 and 50 mg/kg/d administered orally on a once daily ×14 schedule. Significant tumor growth delay (TGD) and regressions are also observed in A375 tumors on this once-daily schedule. For example, five to eight complete or partial responses (CR/PR) and up to six tumor-free survivors (TFS) are observed. Administering Refametinib every other day at 100 mg/kg is less effective than daily dosing with either 25 or 50 mg/kg. When Refametinib is dosed on a twice-daily schedule, it is more effective than once-daily schedules[1].