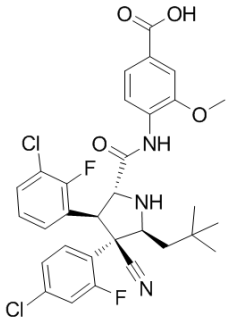
Idasanutlin



Cat. No.:	HY-15676
CAS No.:	1229705-06-9
Molecular Formula:	$C_{31}H_{29}Cl_2F_2N_3O_4$
Molecular Weight:	616.48
Target:	MDM-2/p53; E1/E2/E3 Enzyme
Pathway:	Apoptosis; Metabolic Enzyme/Protease
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 : ≥ 45 mg/mL (73.00 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
	1 mM	1.6221 mL	8.1106 mL	16.2211 mL
	5 mM	0.3244 mL	1.6221 mL	3.2442 mL
	10 mM	0.1622 mL	0.8111 mL	1.6221 mL

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

In Vivo

1. Add each solvent one by one: **10% DMSO >> 90% corn oil**
   Solubility: ≥ 2.5 mg/mL (4.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Idasanutlin (RG7388) is a potent and selective **MDM2** antagonist, inhibiting p53-MDM2 binding, with an **IC_{50}** of 6 nM.

IC_{50} & Target

IC50: 6 nM (p53-MDM2)[1]

In Vitro

Idasanutlin (RG7388) inhibits cell proliferation with IC_{50} of 30 nM, and induces dose-dependent p53 stabilization, cell cycle arrest, as well as cell apoptosis in cancer cells expressing wild-type p53[1]. Idasanutlin (RG7388) (300 nM or 1.8 μM) induces apoptosis in SJSA osteosarcoma cells[2].

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

In Vivo	Idasanutlin (RG7388, 25 mg/kg p.o.) results in tumor growth inhibition and regression, in the mouse SJSA human osteosarcoma xenograft model[1]. Idasanutlin (RG7388) induces induction of apoptosis and antiproliferation, in the SJSA xenograft model[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	Cell proliferation is evaluated by the tetrazolium dye assay. The concentration at which 50% inhibition (IC_{50}) or 90% inhibition (IC_{90}) of cell proliferation is determined from the linear regression of a plot of the logarithm of the concentration versus percent inhibition. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	At 10 to 12 weeks of age, mice are implanted with a 1:1 mixture of human SJSA osteosarcoma cells (ATCC) suspended in phenol-free Matrigel and PBS. Mice are implanted in the right flank at a concentration of 5×10^6 cells in 0.2 mL total volume. At approximately day 10, animals are randomized according to tumor volume, so that all groups of 10 randomized mice have similar starting mean tumor volumes of 100 to 250 mm^3. Idasanutlin (RG7388) is administered as an amorphous solid dispersion microbulk precipitate powder containing 30% drug substance and 70% hydroxypropyl methylcellulose acetate succinate polymer that is reconstituted immediately before administration as a suspension in Klucel/Tween, and remaining suspension is discarded after dosing. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- **EMBO J**. 2019 Oct 15;38(20):e102096.
- **Cancer Res**. 2019 May 1;79(9):2404-2414.
- **Cancer Res**. 2019 Jan 1;79(1):251-262.
- **Haematologica**. 2018 Nov;103(11):1862-1872.
- **Cells**. 2018 Dec 22;8(1). pii: E8.

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REFERENCES

[1]. Ding Q, et al. Discovery of RG7388, a potent and selective p53-MDM2 inhibitor in clinical development. J Med Chem. 2013 Jul 25;56(14):5979-83.

[2]. Higgins B, et al. Preclinical optimization of MDM2 antagonist scheduling for cancer treatment by using a model-based approach. Clin Cancer Res. 2014, 20(14), 3742-3752.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA