AZD-9574

Cat. No.: HY-145804

CAS No.: 2756333-39-6

Molecular Formula: $C_{21}H_{22}F_2N_6O_2$

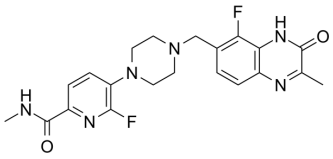
Molecular Weight: 428.44

Target: PPAR

Pathway: Cell Cycle/DNA Damage; Vitamin D Related/Nuclear Receptor

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 : 22.22 mg/mL (51.86 mM; ultrasonic and adjust pH to 4 with HCl)

DMSO : 8.33 mg/mL (19.44 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3340 mL	11.6702 mL	23.3405 mL
5 mM	0.4668 mL	2.3340 mL	4.6681 mL
10 mM	0.2334 mL	1.1670 mL	2.3340 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: ≥ 2.22 mg/mL (5.18 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.22 mg/mL (5.18 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.22 mg/mL (5.18 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AZD-9574 is a potent and brain penetrant PARP1 inhibitor and shows >8000-fold selectivity for PARP1 compared to PARP2/3/5a/6. AZD-9574 acts by selectively inhibiting and trapping PARP1 at the sites of SSBs. AZD-9574 is an anti-cancer agent and can be used for HRD^+ breast cancer and advanced solid malignancies research[1].

IC_{50} & Target

PPAR

In Vitro	AZD-9574 inhibits PARP1 enzymatic activity with IC_{50}s range between 0.3-2 nM in all tested cell lines irrespective of the homologous recombination repair (HRR) status[1]. In isogenic cell lines pairs confirms higher potency and selectivity towards HRR-deficient (HRD^+) models (DLD1 $BRCA2^{-/-}$; SKOV-3 $BRCA2^{-/-}$ and SKOV-3 $PALB2^{-/-}$). The IC_{50} in $BRCA2^{-/-}$ DLD1 cells is 1.38 nM compared to IC_{50} >40 μM $BRCA2^{wt}$ cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	AZD-9574 (3 mg/kg) shows sustained tumour growth suppression resulting in a significantly extended survival of tumour-bearing mice, in intracranial xenograft model of breast cancer brain metastases[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biochemistry. 2023 Aug 2.

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REFERENCES

[1]. Hybrid meeting divulges structures of drug candidates

[2]. 1.Kunzah Jamal, et al. Abstract 2609: AZD9574 is a novel, brain penetrant PARP-1 selective inhibitor with activity in an orthotopic, intracranial xenograft model with aberrant DNA repair. Cancer Res (2022) 82 (12_Supplement): 2609.

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