

Product Data Sheet

Product Name: BMS-986205

Cat. No.: GC19079

Chemical Properties

Cas. No. 1923833-60-6

SMILES O=C(NC1=CC=C(Cl)C=C1)[C@H](C)[C@@](CC2)([H])CC[C@H]2C3=CC=NC4=C3C=C(F)C=C4

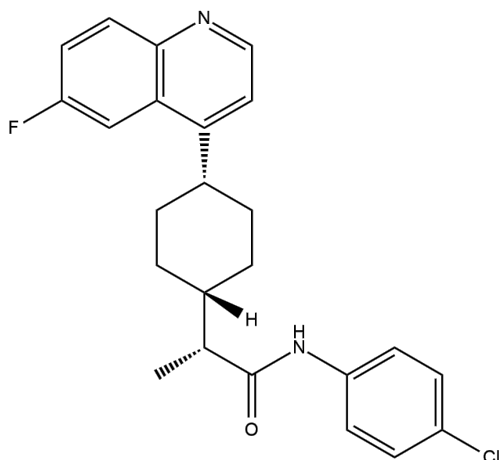
Formula $C_{24}H_{24}ClFN_2O$ M.Wt 410.91

Solubility DMSO : 50 mg/mL (121.68 mM); Water : < 0.1 mg/mL (insoluble) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

Cell lines Jurkat cells

Caution: Product has not been fully validated for medical applications. For research use only.

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Jurkat cells were incubated with 0-100 μ M BMS-986205 for 72h. Cell viability Preparation Method was assessed using ATP Cell Viability Assay, and cell viability was expressed as a percentage of the untreated control group.

Reaction
Conditions 0-100 μ M; 72h

Applications BMS-986205 treatment induced cell death with an IC₅₀ of 6.3 μ M.

Animal experiment [2]:

Animal models Male C57BL/6 mice

22 mice were randomly divided into four experimental groups; Sham (n=5), Sham+10mg/mL BMS-986205 (n=5), 7dUUO (n=4), and 7dUUO+10mg/mL BMS-986205 (n=8). BMS-986205 (diluted in DMSO/Corn oil) was administered twice daily via intraperitoneal injection starting at the day of the surgery; control Preparation Method mice were injected with the corresponding solvent control. After seven days, the kidneys were extracted and blood was collected via cardiac puncture for further analysis. Biochemical analysis of blood samples was performed using a Roche Cobas 6000 analyzer and creatinine levels were determined using the Creatinine Assay Kit.

Dosage form 10mg/kg; 7 days; i.p.

Applications BMS-986205 treatment attenuates renal collagen deposition in UUO mice.

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References:

- [1] Richards T, Brin E. Cell Based Functional Assays for IDO1 Inhibitor Screening and Characterization. Oncotarget, 9, 30814-30820[EB/OL].(2018)
- [2]Jensen C G, Jensen M S, Tingskov S J, et al. Local inhibition of indoleamine 2, 3-dioxygenase mitigates renal fibrosis[J]. Biomedicines, 2021, 9(8): 856.

Background

BMS-986205 is a selective, irreversible inhibitor of indoleamine 2,3-dioxygenase 1 (IDO1), with an IC_{50} of 1.1 μ M in HEK293 cells overexpressing human IDO1 [1, 2]. BMS-986205 possesses immunomodulatory and antitumor activities and has entered clinical trials for various cancer types, including bladder cancer, head and neck cancer, endometrial cancer, gastric cancer, melanoma, liver cancer, non-small cell lung cancer, and solid tumors[3, 4]. BMS-986205 can reverse the anti-autistic effects of Taprenepag by inhibiting IDO1[5]. BMS-986205 can inhibit the ubiquinone reduction site of respiratory chain complex I, thereby impairing mitochondrial ATP production and interfering with glycolysis and oxidative phosphorylation (OXPHOS)[6].

In vitro, treatment of Jurkat cells with BMS-986205 (0-100 μ M) for 72h induced cell death in a dose-dependent manner, with an IC_{50} value of 6.3 μ M[7].

In vivo, treatment of mice with unilateral ureteral obstruction (UUO) with BMS-986205 (10mg/kg) via intraperitoneal injection twice daily for 7 days reduced collagen deposition in the kidneys[8].

References:

- [1] Cherney E C, Zhang L, Nara S, et al. Discovery and preclinical evaluation of BMS-986242, a potent, selective inhibitor of indoleamine-2, 3-dioxygenase 1[J]. ACS Medicinal Chemistry Letters, 2021, 12(2): 288-294.
- [2] Wang X X, Sun S Y, Dong Q Q, et al. Recent advances in the discovery of indoleamine 2, 3-dioxygenase 1 (IDO1) inhibitors[J]. Medchemcomm, 2019, 10(10): 1740-1754.
- [3] Safdarian A R, Farhangnia P, Rezaei N. Indoleamine 2, 3-dioxygenase (IDO) and cancerous cells[M]//Cancerous Cells: Immunobiology of Tumors and Metastasis. Cham: Springer Nature Switzerland, 2025: 475-497.

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- [4] Le Naour J, Galluzzi L, Zitvogel L, et al. Trial watch: IDO inhibitors in cancer therapy[J]. Oncoimmunology, 2020, 9(1): 1777625.
- [5] Wang K, Zhang S, Wang Y, et al. Taprenepag restores maternal–fetal interface homeostasis for the treatment of neurodevelopmental disorders[J]. Journal of Neuroinflammation, 2024, 21(1): 307.
- [6] Dreute J, Stengel J, Becher J, et al. Synergistic targeting of cancer cells through simultaneous inhibition of key metabolic enzymes[J]. Cell Death & Differentiation, 2025: 1-18.
- [7] Richards T, Brin E. Cell Based Functional Assays for IDO1 Inhibitor Screening and Characterization. Oncotarget, 9, 30814-30820[EB/OL].(2018)
- [8] Jensen C G, Jensen M S, Tingskov S J, et al. Local inhibition of indoleamine 2, 3-dioxygenase mitigates renal fibrosis[J]. Biomedicines, 2021, 9(8): 856.

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