

Product Data Sheet

Product Name: FHD-909
Cat. No.: GC81480

Chemical Properties

Cas. No. 3008577-34-9

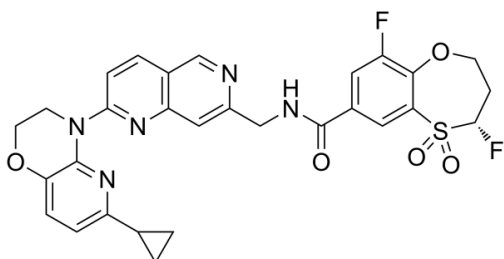
Formula $C_{29}H_{25}F_2N_5O_5S$ M.Wt 593.6

Solubility 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



Background

FHD-909 (LY4050784) is an orally active and selective SMARCA2 (BRM) ATPase inhibitor. FHD-909 potently inhibits purified BRM ATPase with an IC_{50} of 0.0025 μ M and exhibits 35.69-fold selectivity for BRM over purified SMARCA4 (BRG1) ATPase. FHD-909 induces synthetic lethality, suppresses cell proliferation, modulates target gene expression, and achieves remarkable tumor growth inhibition and regression in SMARCA4-mutant cancer cells and xenograft models. FHD-909 can be used for the research of SMARCA4/BRG1-mutant cancers, advanced solid tumors, and BAF complex-related disorders [1] [2] [3] [4].

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

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In Vivo, FHD-909 (LY4050784) (20-60 mg/kg; p.o.; BID; 28 days) demonstrates potent, selective single-agent activity against SMARCA4G12C-mutant NSCLC xenografts^[1]. FHD-909 (60 mg/kg; p.o.; BID; 28 days) enhances the antitumor activity of Cisplatin and Pemetrexed combination chemotherapy, leading to tumor regression in SMARCA4G12C-mutant NSCLC xenografts^[1]. FHD-909 (40 mg/kg; p.o.; BID; 28 days) enhances the antitumor activity of Cisplatin and Paclitaxel combination chemotherapy, leading to tumor regression in SMARCA4G12C-mutant NSCLC xenografts^[1]. FHD-909 (20, 40 mg/kg; p.o.; BID; study day 22 to 49) sensitizes SMARCA4G12C-mutant NSCLC xenografts to Pembrolizumab, resulting in enhanced antitumor activity compared to monotherapy^[1]. FHD-909 (40 mg/kg; p.o.; BID; 28 days) combined with Olomorasib produces synergistic antitumor activity and sustained tumor regression in SMARCA4/KRASG12C co-mutant NSCLC xenografts^[1]. FHD-909 (40 mg/kg; p.o.; BID; 28 days) combined with LY4066434 produces synergistic antitumor activity and sustained tumor regression in SMARCA4/KRASG12S co-mutant NSCLC xenografts^[1].

In Vitro, FHD-909 (LY4050784) (10 days) potently and selectively inhibits proliferation of SMARCA4-mutant non-small cell lung cancer cell lines in vitro, with the median IC₅₀ for SMARCA4-mutant lines being 33-fold lower than that for SMARCA4-wildtype lines^[1]. FHD-909 (0.1-100 nM) exhibits additive and synergistic anti-proliferative activity when combined with Cisplatin, Paclitaxel or Pemetrexed in A549 SMARCA4-mutant non-small cell lung cancer cell lines in vitro^[1]. FHD-909 (0.1-100 nM with olomorasib; 0.1-100 nM with LY4066434) exhibits synergistic anti-proliferative activity when combined with Olomorasib or LY4066434 in NCI-H2030 SMARCA4-mutant, KRASG12C non-small cell lung cancer cell lines in vitro^[1]. FHD-909 (0.1-1000 nM in PATU-8988T cells; 0.1-1000 nM in SNU-407 cells) exhibits synergistic anti-proliferative activity when combined with LY3962673 in PATU-8988T pancreatic ductal adenocarcinoma cell lines and SNU-407 colorectal cancer cell lines in vitro^[1]. FHD-909 (1-10000 nM in A549 cells; 1-10000 nM in PATU-8988T cells) exhibits synergistic anti-proliferative activity when combined with LY4066434 in A549 non-small cell lung cancer cell lines and PATU-8988T pancreatic ductal adenocarcinoma cell lines in vitro^[1]. FHD-909 potently inhibits purified BRM ATPase with an IC₅₀ of 0.0025 μ M and is 35.69-fold selective for BRM over purified BRG1 ATPase^[4].

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- [1]. Brooks NA. LY4050784, a selective inhibitor of SMARCA2, demonstrates synergistic activity in combinations with pembrolizumab or KRAS inhibitors. Proceedings of the American Association for Cancer Research Annual Meeting 2025; 2025 Apr 25-30; Chicago, IL. Proc Am Assoc Cancer Res. 2025;66.
- [2]. Yap T. Abstract CT109: A first-in-human phase 1 study of LY4050784, an oral, potent, and selective SMARCA2 inhibitor, in patients with advanced solid tumors with SMARCA4 alterations (Trial in Progress). Cancer Res. 2025;85(8_Supplement_2):CT109.
- [3]. Lee JY, et al. Discovery of LY4050784 (FHD-909), a selective BRM (SMARCA2) ATPase inhibitor for the treatment of BRG1 (SMARCA4) mutant cancers. Mol Cancer Ther. 2024;23(6_Suppl):PR015.
- [4]. Schiller SE. Compounds and uses thereof, WO, WO2023220219A1, 2023-11-16.

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