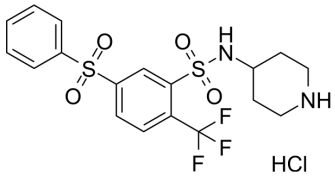
WAY 316606 hydrochloride

Cat. No.:	HY-10858A
CAS No.:	1781835-02-6
Molecular Formula:	$C_{18}H_{20}ClF_3N_2O_4S_2$
Molecular Weight:	484.94
Target:	sFRP-1
Pathway:	Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	WAY 316606 hydrochloride is an inhibitor of the secreted protein sFRP-1, an endogenous antagonist of the secreted glycoprotein Wnt. The affinity of WAY-316606 for sFRP-1 is determined using the FP binding assay with IC_{50} of 0.5 μM[1].
IC_{50} & Target	IC50: 0.5 μM (sFRP-1)[1]
In Vitro	The EC_{50} of WAY-316606 for Wnt-Luciferase Activity from U2-OS Cells is 0.65 μM[1]. WAY-316606 binds to secreted frizzled-related protein (sFRP)-1 inhibitor with a K_D of 0.08 μM and inhibits sFRP-1 with an EC_{50} of 0.65 μM. WAY-316606 also binds to sFRP-2, albeit over 10 times weaker with a K_D of 1 μM. Using a fluorescence polarization binding assay that employs a fluorescent probe compound and purified human sFRP-1 protein in a competitive-binding format, the IC_{50} for WAY-316606 is 0.5 μM[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	WAY-316606 increases bone formation when tested in a neonatal murine calvarial assay. WAY-316606 increases total bone area up to 60% in a dose-dependent manner with an EC_{50} of about 1 nM. WAY-316606 has good aqueous solubility, moderate to low inhibition of cytochrome p450 isozymes (3A4, 2D6, 2C9) and good stability in rat and human liver microsomes ($t_{1/2}$>60 min in each species)[1]. In female Sprague-Dawley rats, WAY-316606 exhibits high plasma clearance (77 mL/min/kg, greater than hepatic blood flow) following a single intravenous bolus dose (2 mg/kg), which results in a rapid decline of drug exposure in the plasma despite the route of administration[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Commun Biol. 2023 Aug 29;6(1):884.
- Front Pharmacol. 2021 Sep 2;12:724147.
- Int J Dev Neurosci. 2018 May;66:24-32.

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REFERENCES

[1]. Moore WJ, et al. Modulation of Wnt signaling through inhibition of secreted frizzled-related protein I (sFRP-1) with N-substituted piperidinyl diphenylsulfonyl sulfonamides. J Med Chem. 2009 Jan 8;52(1):105-16.

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