BAY-7081

Cat. No.: HY-152106

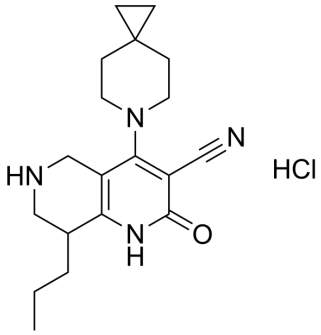
Molecular Formula: $C_{19}H_{27}ClN_4O$

Molecular Weight: 362.9

Target: Phosphodiesterase (PDE)

Pathway: Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

BAY-7081 is a potent, selective, orally active and soluble cyanopyridone-based PDE9A inhibitor with an IC_{50} of 15 nM[1].

IC_{50} & Target

PDE9A
15 nM (IC_{50})

In Vivo

BAY-7081 (0.3 or 1.0 mg/kg; i.v. or p.o.) shows good in vivo PK properties[1].

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

Animal Model:	Wistar rats and dogs[1]
Dosage:	0.3 or 1.0 mg/kg
Administration:	Intravenous injection or oral (Pharmacokinetic Analysis)
Result:	PK Profile of PDE9A Inhibitor BAY-7081 in Selected Species[a][1]

species	CL_b[b] [L h−1 kg−1]	V_{SS}[c] [L kg−1]	MRT[d] [h]	F[e] [%]
Rat	2.4	4.5	1.9	61
Dog	0.9	3.0	4.0	80

[a] Values were derived by intravenous (dose 0.3 mg/kg) and oral (dose 1.0 mg/kg) administration of solutions in either plasma 99% + DMSO 1% (rat iv) or EtOH/PEG400/H2O (dog iv, rat and dog po) vehicles.
[b] Blood clearance.
[c] Volume of distribution at steady state.
[d] Mean residence time after iv application.
[e] Oral bioavailability.

REFERENCES

[1]. Meibom D, et al. BAY-7081: A Potent, Selective, and Orally Bioavailable Cyanopyridone-Based PDE9A Inhibitor. J Med Chem. 2022 Dec 22;65(24):16420-16431.

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