Product Data Sheet

Product Name: MM-589
Cat. No.: GC33278

Chemical Properties

Cas. No.	2097887-20-0		
SMILES	O=C(NCC[C@](NC(C(C)C)=O)(C)C1=O)[C@H](NC([C@@H](NC([C@H](CCCNC(NC)=N)N1)=O)CC)=O)C2=CC=CC=C2		
Formula	$C_{28}H_{44}N_8O_5$	M.Wt	572.7
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	MM-589		

Background

MM-589 is a potent inhibitor of WD repeat domain 5 (WDR5) and mixed lineage leukemia (MLL) interaction. MM-589 binds to WDR5 with an IC50 of 0.90 nM and inhibits the MLL H3K4 methyltransferase activity with an IC50 of 12.7 nM[1].

MM-589 binds to WDR5 with high affinity (IC50=0.90 nM, Ki <1 nM) and potently inhibits the MLL HMT activity (IC50=12.7 nM)[1].MM-589 (0.01-10 μM, 4 days or 7 days) potently and selectively inhibits cell growth in human leukemia cell lines harboring MLL translocations[1].|| Cell Viability Assay[1]||Cell Line:|MV4-11 and MOLM-13|Concentration:|0.1, 1, 10 μM|Incubation Time:|4 days or 7 days|Result:|MM-589 potently inhibits MV4-11 and MOLM-13 cell growth with IC50s of 0.25 and 0.21 μM, respectively. MM-589 has much weaker activity in the inhibition of cell growth of the HL-60 cell line with an IC50 of 8.6 μM[1].

MM-589 has excellent microsomal stability in human, mouse, and rat microsomes (T1/2 > 60 min). Further optimization of MM-589 may yield a new therapy for acute leukemia[1].

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[1]. Karatas H, et al. Discovery of a Highly Potent, Cell-Permeable Macrocyclic Peptidomimetic (MM-589) Targeting the WD Repeat Domain 5 Protein (WDR5)-Mixed Lineage Leukemia (MLL) Protein-Protein Interaction. J Med Chem. 2017 Jun 22;60(12):4818-4839.

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