Product Data Sheet

Product Name: MM-401 TFA
Cat. No.: GC67758

Chemical Properties

Cas. No.	1442106-11-7		
Formula	$C_{31}H_{47}F_3N_8O_7$	M.Wt	700.75
Solubility	Methanol : 125 mg/mL (178.38 mM; Need ultrasonic)	Storage	4°C, protect from light
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-401 TFA		

Background

MM-401 (TFA) is a **MLL1 H3K4 methyltransferase** inhibitor. MM-401 inhibits MLL1 activity (**IC_{50}** = 0.32 μM) by blocking MLL1-WDR5 interaction. MM-401 can induce cell cycle arrest, **Apoptosis** and differentiation. MM-401 can be used for the research of MLL leukemia[1].

MM-401 maintains high binding affinity to WDR5 with a K_i value of < 1 nM and disrupts WDR5-MLL1 interaction with an IC_{50} value of 0.9 nM[1].
MM-401 is able to specifically inhibit MLL1 activity (IC_{50} value of 0.32μM) by blocking MLL1-WDR5 interaction and thus the complex assembly[1].
MM-401 (20 μM; 48 h) specifically inhibits MLL1-dependent H3K4 methylation in cells[1].
MM-401 induces similar changes in MLL-AF9 transcriptome as the MLL1 deletion[1].
MM-401 (10, 20, 40 μM; 48 h) specifically inhibits growth of MLL leukemia cells by inducing cell cycle arrest, apoptosis[1].

Apoptosis Analysis[1]

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Cell Line:	Murine MLL-AF9 and Hoxa9/Meis1 cells
Concentration:	10, 20, 40 μM
Incubation Time:	48 h
Result:	Specifically induced apoptosis of MLL-AF9 cells.

Cell Cycle Analysis[1]

Cell Line:	Murine MLL-AF9 and Hoxa9/Meis1 cells
Concentration:	10, 20, 40 μM
Incubation Time:	48 h
Result:	Induced prominent G1/S arrest in MLL-AF9 cells in a concentration dependent manner.

RT-PCR[1]

Cell Line:	MLL-AF9 cells
Concentration:	20 μM
Incubation Time:	48 h
Result:	Significantly decreased H3K4me, expression of 5 Hox A genes, especially Hoxa9 and Hoxa10.

[1]. Fang Cao, et al. Targeting MLL1 H3K4 methyltransferase activity in mixed-lineage leukemia. Mol Cell. 2014 Jan 23;53(2):247-61.

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