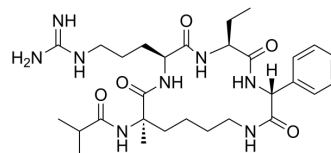


MM-401

Cat. No.:	HY-19554
CAS No.:	1442106-10-6
Molecular Formula:	C ₂₉ H ₄₆ N ₈ O ₅
Molecular Weight:	586.73
Target:	Histone Methyltransferase; Apoptosis
Pathway:	Epigenetics; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	MM-401 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] .																
IC₅₀ & Target	Ki: < 1 nM (WDR5); IC ₅₀ : 0.9 nM (WDR5-MLL1 interaction), 0.32 μM (MLL1) ^[1] .																
In Vitro	<p>MM-401 maintains high binding affinity to WDR5 with a K_i value of < 1 nM and disrupts WDR5-MLL1 interaction with an IC₅₀ value of 0.9 nM^[1].</p> <p>MM-401 is able to specifically inhibit MLL1 activity (IC₅₀ value of 0.32 μM) by blocking MLL1-WDR5 interaction and thus the complex assembly^[1].</p> <p>MM-401 (20 μM; 48 h) specifically inhibits MLL1-dependent H3K4 methylation in cells^[1].</p> <p>MM-401 induces similar changes in MLL-AF9 transcriptome as the MLL1 deletion^[1].</p> <p>MM-401 (10, 20, 40 μM; 48 h) specifically inhibits growth of MLL leukemia cells by inducing cell cycle arrest, apoptosis^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Apoptosis Analysis^[1]</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>Murine MLL-AF9 and Hoxa9/Meis1 cells</td> </tr> <tr> <td>Concentration:</td> <td>0, 20, 40 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 h</td> </tr> <tr> <td>Result:</td> <td>Specifically induced apoptosis of MLL-AF9 cells.</td> </tr> </table> <p>Cell Cycle Analysis^[1]</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>Murine MLL-AF9 and Hoxa9/Meis1 cells</td> </tr> <tr> <td>Concentration:</td> <td>10, 20, 40 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 h</td> </tr> <tr> <td>Result:</td> <td>Induced prominent G1/S arrest in MLL-AF9 cells in a concentration dependent manner.</td> </tr> </table> <p>RT-PCR^[1]</p>	Cell Line:	Murine MLL-AF9 and Hoxa9/Meis1 cells	Concentration:	0, 20, 40 μM	Incubation Time:	48 h	Result:	Specifically induced apoptosis of MLL-AF9 cells.	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.
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Cell Line:	MLL-AF9 cells
Concentration:	20 μ M
Incubation Time:	48 h
Result:	Significantly decreased H3K4me, expression of 5 Hox A genes, especially Hoxa9 and Hoxa10.

CUSTOMER VALIDATION

- Nat Commun. 2023 Sep 14;14(1):5685.

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REFERENCES

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

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

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