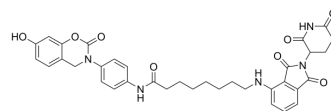


MD13

Cat. No.:	HY-148117
CAS No.:	2758431-97-7
Molecular Formula:	C ₃₅ H ₃₅ N ₅ O ₈
Molecular Weight:	653.68
Target:	PROTACs; Macrophage migration inhibitory factor (MIF)
Pathway:	PROTAC; Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	MD13 is a macrophage migration inhibitory factor (MIF)-directed PROTAC with a K _i of 71 nM. MD13 can be used for cancer research ^[1] .																		
IC₅₀ & Target	K _i : 71 nM (MIF) ^[1]																		
In Vitro	<p>MD13 degrades 91±5% and 71±7% MIF at 2 μM and 0.2 μM, respectively. MD13 induces MIF degradation through binding to E3 ligase cereblon^[1].</p> <p>MD13 (0-20 μM; 72 h) inhibits cell proliferation of A549 cancer cells^[1].</p> <p>MD13 (1-5 μM; 48 h) arrests cell cycle at G2/M phase in A549 cells^[1].</p> <p>MD13 (2 μM; 6-48 h) inhibits ERK signaling^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A549 cells</td> </tr> <tr> <td>Concentration:</td> <td>0-20 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>12 h</td> </tr> <tr> <td>Result:</td> <td>Caused depletion of MIF protein.</td> </tr> </table> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A549 cells</td> </tr> <tr> <td>Concentration:</td> <td>2 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>6, 24 or 48 h</td> </tr> <tr> <td>Result:</td> <td>Inhibited ERK phosphorylation.</td> </tr> </table> <p>Cell Proliferation Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A549 cells</td> </tr> </table>	Cell Line:	A549 cells	Concentration:	0-20 μM	Incubation Time:	12 h	Result:	Caused depletion of MIF protein.	Cell Line:	A549 cells	Concentration:	2 μM	Incubation Time:	6, 24 or 48 h	Result:	Inhibited ERK phosphorylation.	Cell Line:	A549 cells
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Result:	Inhibited ERK phosphorylation.																		
Cell Line:	A549 cells																		

Concentration:	0-20 μ M
Incubation Time:	72 h
Result:	Inhibited the growth of A549 cells in a dose-dependent manner. The inhibitory effect reached about 50% inhibition of cell proliferation at a concentration of 20 μ M.

Cell Cycle Analysis^[1]

Cell Line:	A549 cells
Concentration:	1, 2, or 5 μ M
Incubation Time:	48 h
Result:	Dose-dependently induced cell cycle arrest at the G2/M phase.

REFERENCES

[1]. Xiao Z, et al. Proteolysis Targeting Chimera (PROTAC) for Macrophage Migration Inhibitory Factor (MIF) Has Anti-Proliferative Activity in Lung Cancer Cells. *Angew Chem Int Ed Engl.* 2021 Aug 2;60(32):17514-17521.

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

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