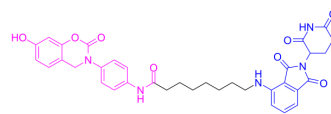


## MD13

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



### BIOLOGICAL ACTIVITY

<b>Description</b>	MD13 is a macrophage migration inhibitory factor (MIF)-directed PROTAC with a K <sub>i</sub> of 71 nM. MD13 can be used for cancer research <sup>[1]</sup> .																		
<b>IC<sub>50</sub> &amp; Target</b>	K <sub>i</sub> : 71 nM (MIF) <sup>[1]</sup>																		
<b>In Vitro</b>	<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<sup>[1]</sup>.</p> <p>MD13 (0-20 μM; 72 h) inhibits cell proliferation of A549 cancer cells<sup>[1]</sup>.</p> <p>MD13 (1-5 μM; 48 h) arrests cell cycle at G2/M phase in A549 cells<sup>[1]</sup>.</p> <p>MD13 (2 μM; 6-48 h) inhibits ERK signaling<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis<sup>[1]</sup></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<sup>[1]</sup></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<sup>[1]</sup></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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Concentration:	0-20 $\mu$ 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 $\mu$ M.

#### Cell Cycle Analysis<sup>[1]</sup>

Cell Line:	A549 cells
Concentration:	1, 2, or 5 $\mu$ 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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