# HDAC-IN-49

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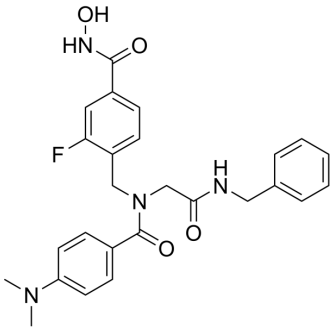
| **Cat. No.:** | HY-151897 |
| **Molecular Formula:** | $C_{26}H_{27}FN_4O_4$ |
| **Molecular Weight:** | 478.52 |
| **Target:** | HDAC |
| **Pathway:** | Cell Cycle/DNA Damage; Epigenetics |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

**Description**

HDAC-IN-49 is a potent unselective HDAC (HDAC) inhibitor with $IC_{50}$s of 13 nM, 14 nM, 21 nM, 1880 nM, and 10 nM for HDAC1, HDAC2, HDAC3, HDAC4, and HDAC6. HDAC-IN-49 demonstrates prominent antileukemic activity with low cytotoxic activity toward healthy cells[1].

**$IC_{50}$ & Target**

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| HDAC1<br>13 nM ($IC_{50}$) | HDAC2<br>14 nM ($IC_{50}$) | HDAC3<br>21 nM ($IC_{50}$) | HDAC4<br>1880 nM ($IC_{50}$) |
| HDAC6<br>10 nM ($IC_{50}$) | | | |

**In Vitro**

HDAC-IN-49 (compound 10h) shows remarkable cytotoxic potential against different therapy-resistant leukemia cell lines, with $IC_{50}$ values of 0.375 μM, 0.218 μM, and 0.285 μM for HAL01, HL60 and Jurkat cells, respectively.HDAC-IN-49 (compound 10h; 1-5 μM; 48 h) treatment results in a significant apoptosis induction in HL60 cells[1].

HDAC-IN-49 (compound 10h; 6-36 μM; 24 h) shows a dose-dependent increase in the level of acetylation of α-tubulin and histone 3 (H3) in HL60 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

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| Cell Line: | HL60 cells |
| Concentration: | 1 μM and 5 μM |
| Incubation Time: | 48 h |
| Result: | Resulted in a significant apoptosis induction. |

Western Blot Analysis[1]

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| Cell Line: | HL60 cells |
| Concentration: | 6 μM, 12 μM, 24 μM, 36 μM |
| Incubation Time: | 24 h |
| Result: | Increased in the level of acetylation of α-tubulin and histone 3 (H3). |

## REFERENCES

[1]. Nina Reßing, et al. Development of Fluorinated Peptoid-Based Histone Deacetylase (HDAC) Inhibitors for Therapy-Resistant Acute Leukemia. J Med Chem. 2022 Nov 24;65(22):15457-15472.



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