# MCT1-IN-3

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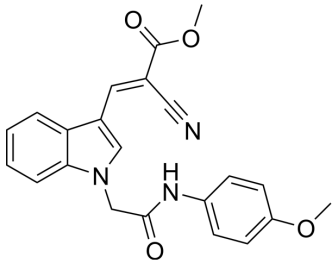
| **Cat. No.:** | HY-148574 |
| **CAS No.:** | 2878360-80-4 |
| **Molecular Formula:** | $C_{22}H_{19}N_3O_4$ |
| **Molecular Weight:** | 389.4 |
| **Target:** | Monocarboxylate Transporter; P-glycoprotein |
| **Pathway:** | Membrane Transporter/Ion Channel |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

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| **Description** | MCT1-IN-3 is a monocarboxylate transporter 1 (MCT1) inhibitor with an $IC_{50}$ value of 81.0 nM. MCT1-IN-3 has also significant inhibitivity against the multidrug transporter ABCB1. MCT1-IN-3 can be used for the research of cancer[1]. |
| **$IC_{50}$ & Target** | IC50: 81.0 nM (MCT1)[1]<br>GI50: 20 μM (A-549); 15.1 μM (MCF-7)[1] |
| **In Vitro** | MCT1-IN-3 (compound 24) has inhibitory activity for MCT1 with an $IC_{50}$ value of 81.0 nM[1].<br>MCT1-IN-3 has great antiproliferative activities against the MCT1-expressing cancer cell lines A-549 and MCF-7 with $GI_{50}$ values of 20 μM and 15.1 μM, respectively[1].<br>MCT1-IN-3 (5 μM; 24 h) leads to cancer cell cycle arrest as well as apoptosis[1].<br>MCT1-IN-3 (1.0, 2.0, 3.5, and 5.0 μM) shows to sensitize these cancer cells toward an antineoplastic agent[1].<br>MCT1-IN-3 has also significant inhibitory power against the multidrug transporter ABCB1 and shows to reverse ABCB1-mediated multidrug resistance (MDR) [1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

Cell Cycle Analysis[1]

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| Cell Line: | A-549 cells |
| Concentration: | 5 μM |
| Incubation Time: | 24 h |
| Result: | Caused a disruption of the cell cycle of A-549 cancer cells, indicated by a shift from the predominant Go/G, phase. |

Apoptosis Analysis[1]

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| Cell Line: | A-549 cells |
| Concentration: | 5 μM |
| Incubation Time: | 24 h |
| Result: | Increased the percentage of total apoptotic cells by a factor of 13 from 0.51 to 6.68%. |

## REFERENCES

[1]. Sachin Puri, et al. Indole Derivatives as New Structural Class of Potent and Antiproliferative Inhibitors of Monocarboxylate Transporter 1 (MCT1; SLC16A1). J Med Chem. 2023 Jan 12;66(1):657-676.



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