# α-Glucosidase-IN-23

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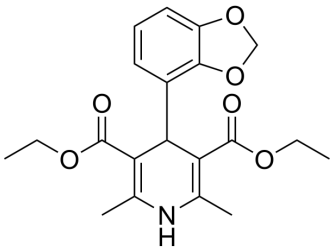
| **Cat. No.:** | HY-148575 |
| **CAS No.:** | 161187-57-1 |
| **Molecular Formula:** | $C_{20}H_{23}NO_6$ |
| **Molecular Weight:** | 373.4 |
| **Target:** | Glucosidase |
| **Pathway:** | Metabolic Enzyme/Protease |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

**Description**

α-Glucosidase-IN-23 is an orally active α-Glucosidase inhibitor. α-Glucosidase-IN-23 decreases blood glucose by a-glucosidase inhibition with an $IC_{50}$ value of 4.48 μM. α-Glucosidase-IN-23 can be used for the research of diabetes[1].

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

IC50: 4.48 μM (a-glucosidase)[1].

**In Vitro**

α-Glucosidase-IN-23 (compound 8b) (1 μM) shows prominent antidiabetic effect[1].
α-Glucosidase-IN-23 diminishes ROS in β-cells and muscle cells[1].
α-Glucosidase-IN-23 decreases blood glucose by a-glucosidase inhibition with an $IC_{50}$ value of 4.48 μM[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

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| Cell Line: | INS-1 Cells |
| Concentration: | 1 μM |
| Incubation Time: | |
| Result: | Stimulated the growth of INS-1 cells in a dose-codependent approach. |

Apoptosis Analysis[1]

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|---|---|
| Cell Line: | INS-1 Cells |
| Concentration: | 1 μM |
| Incubation Time: | |
| Result: | Restored the viability of INS-1 cells by about five times from apoptosis and eight times from necrosis. |

**In Vivo**

α-Glucosidase-IN-23 (oral; 0.2 mmol/kg/day) only inhibits a-glucosidase in mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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| Animal Model: | Mice[1] |
| Dosage: | 0.2 mmol/kg |
| Administration: | Oral; 0.2 mmol/kg/day |
| Result: | |

| $C_{max}$ (nmol/mL) | $T_{max}$ (h) | $T_{1/2}$(h) | AUC (ng/h/mL) |
|---|---|---|---|
| 10.11 ± 1.17 | 0.8 ± 0.0 | 1.90 ± 1.04 | 36.7 ± 2.23 |

## REFERENCES

[1]. Peter A Sidhom, et al. Mechanistic Insight of Synthesized 1,4-Dihydropyridines as an Antidiabetic Sword against Reactive Oxygen Species. J Med Chem. 2023 Jan 12;66(1):991-1010.



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