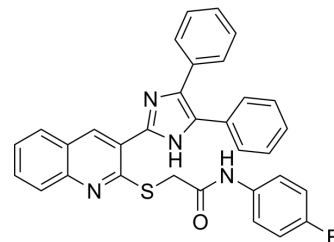


α-Glucosidase-IN-57

Cat. No.:	HY-163433
Molecular Formula:	C ₃₂ H ₂₃ FN ₄ OS
Molecular Weight:	530.61
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-57 (Compound 10c) is a competitive and orally active α-glucosidase inhibitor with an IC ₅₀ value of 0.180 μM and a K _i of 0.15 μM. α-Glucosidase-IN-57 can reduce fasting and overall blood glucose levels in mice, and can be used for anti-diabetes research ^[1] .								
In Vitro	α-Glucosidase-in-57 (Compound 10c) (0, 0.045, 0.09, 0.18 μM) competes with the substrate p-NPG (HY-W039892) (1-16 μM) for the same active site of the α-Glucosidase enzyme. α-Glucosidase-IN-57 acts as a potent competitive inhibitor of alpha-glucosidase ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
In Vivo	<p>α-Glucosidase-IN-57 (Compound 10c) (250, 500, 1000 mg/kg; Oral gavage (p.o.); 72h) is well tolerated and safe in Wistar albino rat models^[1].</p> <p>α-Glucosidase-IN-57 (10, 25, 50 mg/kg; Oral gavage (p.o.); once daily for 28 days) has hypoglycemic activity in a Wistar albino rat model of diabetes, including reduces fasting blood glucose levels, improves glucose tolerance, and possibly improves islet structure of pancreatic tissue^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Male Wistar albino rats with diabetes^[1]</td> </tr> <tr> <td>Dosage:</td> <td>α-Glucosidase-IN-57: 10, 25, 50 mg/kg; Acarbose: 50 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Oral gavage (p.o.); once daily for 28 days</td> </tr> <tr> <td>Result:</td> <td> <p>In the first 7 days, fasting blood glucose levels were not significantly different from diabetic controls.</p> <p>On day 14, significantly reduced blood glucose levels at oral doses of 25 and 50 mg/kg, while Acarbose (at oral doses of 50 mg/kg) achieved the same effect.</p> <p>On day 21, had the best hypoglycemic effect with acarbose at oral doses of 25 and 50 mg/kg, which was significantly better than the diabetic control group.</p> <p>On day 28, blood glucose levels were significantly lower than those in the diabetic control group.</p> </td> </tr> </table>	Animal Model:	Male Wistar albino rats with diabetes ^[1]	Dosage:	α-Glucosidase-IN-57: 10, 25, 50 mg/kg; Acarbose: 50 mg/kg	Administration:	Oral gavage (p.o.); once daily for 28 days	Result:	<p>In the first 7 days, fasting blood glucose levels were not significantly different from diabetic controls.</p> <p>On day 14, significantly reduced blood glucose levels at oral doses of 25 and 50 mg/kg, while Acarbose (at oral doses of 50 mg/kg) achieved the same effect.</p> <p>On day 21, had the best hypoglycemic effect with acarbose at oral doses of 25 and 50 mg/kg, which was significantly better than the diabetic control group.</p> <p>On day 28, blood glucose levels were significantly lower than those in the diabetic control group.</p>
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REFERENCES

[1]. Khalili Ghomi M, et al. Evaluation of novel 2-(quinoline-2-ylthio)acetamide derivatives linked to diphenyl-imidazole as α -glucosidase inhibitors: Insights from in silico, in vitro, and in vivo studies on their anti-diabetic properties. Eur J Med Chem. 2024 Apr 5;269:116332.

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

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