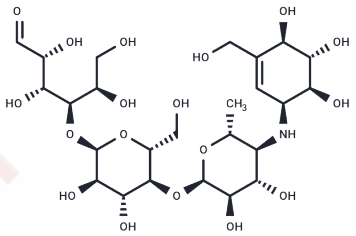
Data Sheet (Cat.No.T0247)

TargetMol

Acarbose

Chemical Properties



CAS No. : 56180-94-0

Formula: C25H43NO18

Molecular Weight: 645.6

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Acarbose (BAY g 5421) is a hypoglycemic agent that is an inhibitor of orally active alpha-glucosidase (IC50=11 nM). Acarbose enhances the hypoglycemic effect of sulfonylureas or insulin.
Targets(IC50)	Glucosidase,glycosidase
In vitro	**METHODS**: A7r5 cells pretreated with TNF-α were treated with Acarbose (1, 2, and 3 μM) and the expression levels of target proteins were detected by Western Blot. **RESULTS**: Acarbose decreased the expression of β-galactosidase and Ras and increased the expression of p-AMPK in a dose-dependent manner. [1]
In vivo	**METHODS**: To study the hypoglycemic effect of Acarbose, rats were treated with Acarbose (30, 60 mg/kg) by gavage once daily for 8 weeks. **RESULTS**: Acarbose reduced fasting glucose and modulated glucose tolerance without weight loss in DM rats. Acarbose significantly inhibited serum IL6 and TNF-α in DM rats. [2] **METHODS**: To study the effect of Acarbose on atherosclerosis, rabbits were fed Acarbose (2.5-5.0 mg/kg) for 25 weeks. **RESULTS**: Acarbose significantly and dose-dependent reduced the intensity of IL-6, TNF-α and iNOS staining, and significantly increased the intensity of p-AMPK staining in the neointima. Acarbose significantly and dose-dependent reduced neointimal Ras and β-galactosidase expression in HCD-fed rabbits without weight loss. [1]
Cell Research	Cell viability is determined using the MTT assay. Cells are seeded in 24-well culture plates at a density of 2×104 cells/well, incubated for 48 h, treated with acarbose at varying concentrations (0.5, 1.0, 2.0, 3.0, and 5.0 μM) for 24 h; or pre-treated with TNF-α (20 ng/mL) for either 24 h or 48 h to evaluate the dose-dependent effects of acarbose on VSMC growth and viability, cultured with 0.5 mg/mL MTT at 37°C in a humidified atmosphere of 5% CO2 for another 4 h, and solubilized with isopropanol. The viable cell number varies directly with the concentration of formazan product measured spectrophotometrically at 563 nm.

Solubility Information

Solubility	DMSO: 50.00 mg/mL (77.45 mM),Sonication is recommended. H2O: 64.50 mg/mL (99.91 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5489 mL	7.7447 mL	15.4895 mL
5 mM	0.3098 mL	1.5489 mL	3.0979 mL
10 mM	0.1549 mL	0.7745 mL	1.5489 mL
50 mM	0.031 mL	0.1549 mL	0.3098 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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