



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# PRODUCT INFORMATION



## Acarbose

Item No. 11885

**CAS Registry No.:** 56180-94-0  
**Formal Name:** O-4,6-dideoxy-4-[[[(1S,4R,5S,6S)-4,5,6-trihydroxy-3-(hydroxymethyl)-2-cyclohexen-1-yl]amino]- $\alpha$ -D-glucopyranosyl-(1 $\rightarrow$ 4)-O- $\alpha$ -D-glucopyranosyl-(1 $\rightarrow$ 4)-D-glucose

**Synonym:** BAY-g 5421  
**MF:** C<sub>25</sub>H<sub>43</sub>NO<sub>18</sub>

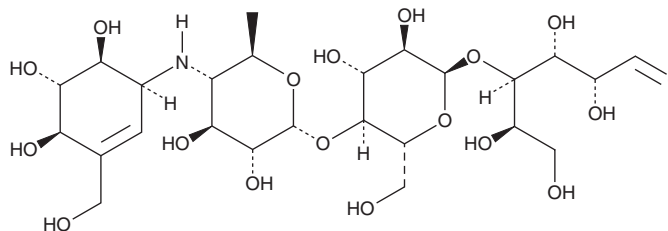
**FW:** 645.6

**Purity:**  $\geq$ 98%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:**  $\geq$ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Acarbose is supplied as a crystalline solid. A stock solution may be made by dissolving the acarbose in the solvent of choice, which should be purged with an inert gas. Acarbose is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of acarbose in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of acarbose can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of acarbose in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Acarbose is an oligosaccharide and inhibitor of  $\alpha$ -glucosidases ( $IC_{50}$ s = 0.16 and 2.9  $\mu$ M for maltase and sucrase, respectively).<sup>1</sup> It also activates phosphorylase kinase in a cell-free assay when used at a concentration of 250  $\mu$ M.<sup>2</sup> Acarbose (40 mg/kg in the diet) decreases urine levels of glucose and glycosylated hemoglobin, as well as glomerular mesangial thickening in a *db/db* mouse model of diabetic nephropathy.<sup>3</sup> It reduces sucrose-induced increases in infarct size as a percentage of the area at risk and serum malondialdehyde (MDA) levels in a mouse model of cardiac ischemia-reperfusion injury induced by coronary artery ligation when administered at a dose of 10 mg/kg.<sup>4</sup>

### References

1. Natori, Y., Imahori, T., Murakami, K., *et al.* The synthesis and biological evaluation of 1-C-alkyl-L-arabinoiminofuranoses, a novel class of  $\alpha$ -glucosidase inhibitors. *Bioorg. Med. Chem. Lett.* **21**(2), 738-741 (2011).
2. Nadeau, O.W., Liu, W., Boulatnikov, I.G., *et al.* The glucoamylase inhibitor acarbose is a direct activator of phosphorylase kinase. *Biochemistry* **49**(31), 6505-6507 (2010).
3. Lee, S.M. The effect of chronic  $\alpha$ -glycosidase inhibition on diabetic nephropathy in the *db/db* mouse. *Diabetes* **31**(3), 249-254 (1982).
4. Frantz, S., Calvillo, L., Tillmanns, J., *et al.* Repetitive postprandial hyperglycemia increases cardiac ischemia/reperfusion injury: Prevention by the  $\alpha$ -glucosidase inhibitor acarbose *FASEB J.* **19**(6), 591-593 (2005).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/06/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM