



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 Handels GmbH

Quellenstraße 110, A-1100 Wien

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

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

mail@szabo-scandic.com

www.szabo-scandic.com

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



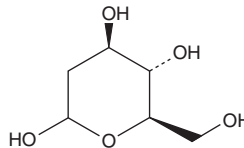
PRODUCT INFORMATION



2-deoxy-D-Glucose

Item No. 14325

CAS Registry No.: 154-17-6
Formal Name: 2-deoxy-D-arabino-hexose
Synonyms: Ba 2758, 2-DG, NSC 15193
MF: $C_6H_{12}O_5$
FW: 164.2
Purity: $\geq 98\%$
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years



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

Laboratory Procedures

2-deoxy-D-Glucose is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-deoxy-D-glucose in the solvent of choice, which should be purged with an inert gas. 2-deoxy-D-Glucose is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 2-deoxy-D-glucose in these solvents is approximately 20 and 10 mg/ml, respectively.

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 2-deoxy-D-glucose can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2-deoxy-D-glucose in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

2-deoxy-D-Glucose is a glucose antimetabolite and an inhibitor of glycolysis.^{1,2} It is metabolized by hexokinase into 2-deoxy-D-glucose-6-phosphate (2-DG6P), which cannot be metabolized by glucose-6-phosphate isomerase, leading to 2-DG6P accumulation, inhibition of glycolysis, and cell death.³ 2-deoxy-D-glucose (16 mM) induces apoptosis in SK-BR-3 cells, as well as inhibits the growth of 143B osteosarcoma cells cultured under hypoxic conditions when used at a concentration of 2 mg/ml.^{4,5} *In vivo*, 2-deoxy-D-glucose (500 mg/kg) reduces tumor growth in 143B osteosarcoma and MV522 non-small cell lung cancer mouse xenograft models when used alone or in combination with doxorubicin (Item No. 15007) or paclitaxel (Item No. 10461).⁶

References

1. Kang, H.T. and Hwang, E.S. 2-Deoxyglucose: An anticancer and antiviral therapeutic, but not any more a low glucose mimetic. *Life Sci.* **78**(12), 1392-1399 (2006).
2. Aft, R.L., Zhang, F.W., and Gius, D. Evaluation of 2-deoxy-D-glucose as a chemotherapeutic agent: Mechanism of cell death. *Br. J. Cancer* **87**(7), 805-812 (2002).
3. Pajak, B., Siwiak, E., Sotytka, M., et al. 2-deoxy-d-glucose and its analogs: From diagnostic to therapeutic agents. *Int. J. Mol. Sci.* **21**(1), 234 (2019).
4. Liu, H., Savaraj, N., Priebe, W., et al. Hypoxia increases tumor cell sensitivity to glycolytic inhibitors: A strategy for solid tumor therapy (Model C). *Biochem. Pharmacol.* **64**(12), 1745-1751 (2002).
5. Zhang, X.D., Deslandes, E., Villedieu, M., et al. Effect of 2-deoxy-D-glucose on various malignant cell lines *in vitro*. *Anticancer Res.* **26**, 3561-3566 (2006).
6. Maschek, G., Savaraj, N., Priebe, W., et al. 2-deoxy-D-glucose increases the efficacy of adriamycin and paclitaxel in human osteosarcoma and non-small cell lung cancers *in vivo*. *Cancer Res.* **64**(1), 31-34 (2004).

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, 05/13/2024

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