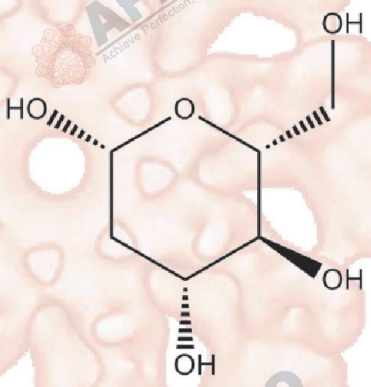
Product Data Sheet

2-Deoxy-D-glucose

Cat. No.: B1027
CAS No.: 154-17-6
Formula: C6H12O5
M.Wt: 164.16
Synonyms:
Target: Others
Pathway: Hexokinase
Storage: Store at -20°C



Solvent & Solubility

In Vitro

⩾105 mg/mL in H2O; ⩾2.37 mg/mL in EtOH with gentle warming and ultrasonic; ⩾8.2 mg/mL in DMSO

Preparing Stock Solutions

Concentration \ Mass / Solvent	1mg	5mg	10mg
1 mM	6.0916 mL	30.4581 mL	60.9162 mL
5 mM	1.2183 mL	6.0916 mL	12.1832 mL
10 mM	0.6092 mL	3.0458 mL	6.0916 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Glycolysis inhibitor
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	GIST cell lines, Vero cells infected with PEDV
Preparation method:	The solubility of this compound in DMSO is >8.2mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	5 mM, 10 mM, 24 h

	Applications:	2DG dose-dependent accumulation of cells in G1-phase and reduction of S-phase cells with the IC50 values between 0.5 μM and 2.5 μM. 2-DG inhibited PEDV replication and gene expression in Vero cells. 2-DG (10 mM for 24 h) treatment affected virus packaging.
In Vivo	**Animal experiment**	
	Animal models:	Nude mouse xenograft models of human osteosarcoma and non-small cell lung cancer
	Dosage form:	500 mg/kg, i.p., 3 × per week (Monday, Wednesday, and Friday)
	Applications:	ADR (6 mg/kg, i.v.) + 2-DG (500 mg/kg, i.p.) combination treatment resulted in significant slower tumor growth than 2-DG alone.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Barot S, Abo-Ali EM, et al. "Inhibition of glycogen catabolism induces intrinsic apoptosis and augments multikinase inhibitors in hepatocellular carcinoma cells." Exp Cell Res. 2019 Aug 15;381(2):288-300.PMID:31128107

2. Tian C, Yuan Z, et al. "Inhibition of glycolysis by a novel EGFR/HER2 inhibitor KU004 suppresses the growth of HER2+ cancer." Exp Cell Res. 2017 May 19. pii: S0014-4827(17)30297-5.PMID:28532652

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References

[1]. Mühlenberg T, Grunewald S, Treckmann J, et al. Inhibition of KIT-glycosylation by 2-deoxyglucose abrogates KIT-signaling and combination with ABT-263 synergistically induces apoptosis in gastrointestinal stromal tumor[J]. PloS one, 2015, 10(3): e0120531.

[2]. Wang Y, Li J, Sun M, et al. Triggering unfolded protein response by 2-Deoxy-D-glucose inhibits porcine epidemic diarrhea virus propagation[J]. Antiviral research, 2014, 106: 33-41.

[3]. Gregory Maschek, Niramol Savaraj, Waldemar Priebe, 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 Research, 2004, 64:31-34.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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