

2-Deoxy-D-Glucose

A glucose analog that has long been known to act as a competitive inhibitor of glucose metabolism

Instruction Manual

Catalog Number	PK-CA577-B1048-500
Description	2-Deoxy-D-Glucose is a glucose analog that has long been known to act as a competitive inhibitor of glucose metabolism. Upon transport into the cells, 2-DG is phosphorylated by hexokinase to 2-DG-P. However, unlike G-6-P, 2-DG-P cannot be further metabolized by phosphohexose isomerase, which converts G-6-P to fructose-6-phosphate. 2-Deoxyglucose-P is trapped and accumulated in the cells, leading to inhibition of glycolysis mainly at the step of phosphorylation of glucose by hexokinase. Inhibition of this rate-limiting step by 2-DG causes a depletion of cellular ATP, leading to blockage of cell cycle progression and cell death <i>in vitro</i> .
Quantity	500 mg
Sequence / Molecular Weight / Molecular Formula	164.16 Da; C ₆ H ₁₂ O ₅
Chemical Structure	
Synonyms	2-Deoxy-D-arabinohexose, 2-Deoxyglucose
CAS No.	154-17-6
Purity	≥98% (as determined by GC analysis).
Appearance / Formulation / Solubility	White to off-white solid. Soluble in H ₂ O (>15 mg/ml) or DMSO (>15 mg/ml).
Storage & Stability	Store at 4°C. Protect from light, air and moisture.
Applications	See Description.
References	Newburg, D.S., et al. (1986). <i>Biochim. Biophys. Acta</i> 877, 121-126.
Caution	Do not take internally. Wear gloves and mask when handling the product! Avoid contact by all modes of exposure. See MSDS for more information.
Related Products	Other Glycolysis Inhibitors: 3-Bromopyruvic Acid (PK-CA577-B1045-100, -1G) 6-Aminonicotinamide (PK-CA577-B1047-100, -500) Lonidamine (PK-CA577-B1058-10, -50) Oxythiamine Chloride (hydrochloride) (PK-CA577-B1046-100, -1G) Shikonin (PK-CA577-B1056-10, -50) Sodium Oxamate (PK-CA577-2580-1G, 5G) Find a wide range of products to study the carbohydrate & glucose metabolism (e.g. assays, antibodies, ELISAs, biochemicals such as inhibitors/activators), on our website www.promocell.com .

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