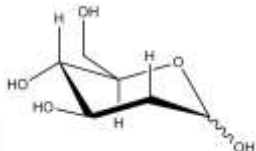


PRODUCT: 2-Deoxy-D-glucose**ALTERNATE NAME:** 2-Deoxy-D-arabinohexose, 2-Deoxyglucose**CATALOG #:** B1048-100, 500**AMOUNT:** 100 mg, 500 mg**STRUCTURE:****MOLECULAR FORMULA:** C₆H₁₂O₅**MOLECULAR WEIGHT:** 164.16**CAS NUMBER:** 154-17-6**APPEARANCE:** White to off-white solid**SOLUBILITY:** H₂O (>15 mg/ml) or DMSO (>15 mg/ml)**PURITY:** ≥98% by GC**STORAGE:** Store at +4°C. Protect from air and moisture

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 in vitro.

REFERENCES: Maher, J.C., *et al.* (2004). *Cancer Chemother. Pharmacol.* **53**, 116-122.

HANDLING: Do not take internally. Wear gloves and mask when handling the product! Avoid contact by all modes of exposure.

RELATED PRODUCTS:3-Bromopyruvic acid (**B1045**)Oxythiamine Chloride Hydrochloride (**B1046**)6-Aminonicotinamide (**B1047**)2-Deoxy-D-glucose (**B1048**)Lonidamine (**Cat. No. B1058**)**USAGE:** *FOR RESEARCH CH USE ONLY! Not to be used in humans*