2-Deoxy-D-glucose (2-DG) is a synthetic glucose analog with extensive biological effects. It is commonly thought of as an inhibitor of glycolysis, but its metabolic effects are wide-ranging. 2-DG competitively inhibits glucose uptake via its metabolite 2-Deoxy-D-glucose-6-phosphate, which inhibits hexokinase and phosphoglucone-isomerase leading to decreased ATP production, cell cycle blockage, decreased cell growth and ultimately cell death.\(^1\)\(^2\)

1) Raiser et al., (2008), A catabolic blockade does not sufficiently explain how 2-deoxy-D-glucose inhibits cell growth; Proc.Natl.Acad.Sci. USA 105 17807

2) Giammarioli et al. (2012), Differential effects of the glycolysis inhibitor 2-deoxy-D-glucose on the activity of pro-apoptotic agents in metastatic melanoma cells; Int.J.Cancer 131 e337

### PHYSICAL DATA

- **Molecular Weight:** 164.16
- **Molecular Formula:** C\(_6\)H\(_{12}\)O\(_5\)
- **Purity:** >98%
  - NMR: (Conforms)
- **Solubility:** Soluble in Water (>15 mg mg/mL) or DMSO (>15 mg/ml).
- **Physical Description:** White solid
- **Storage and Stability:** Store as supplied at -20°C for up to 1 year from the date of purchase. Store solutions in DMSO at -20°C for up to 1 month. Make solutions in water fresh daily.