

# Pentose phosphate pathway

## OXIDATIVE (IRREVERSIBLE)

- Cholesterol & fatty acid synthesis
- Glutathione antioxidant mechanism

Glucose-6-phosphate

NADP<sup>+</sup>

Glucose-6-phosphate dehydrogenase  
(rate-limiting step)

NADPH

6-phosphogluconate

NADP<sup>+</sup>

6-phosphogluconate dehydrogenase

NADPH

Ribulose-5-phosphate

## NONOXIDATIVE (REVERSIBLE)

Ribulose-5-phosphate

Xylulose-5-phosphate

Ribose-5-phosphate

Nucleotide  
synthesis

Transketolase

Sedoheptulose-7-phosphate

Glyceraldehyde-3-phosphate

Transaldolase

Erythrose-4-phosphate

Fructose-6-phosphate

Glycolysis