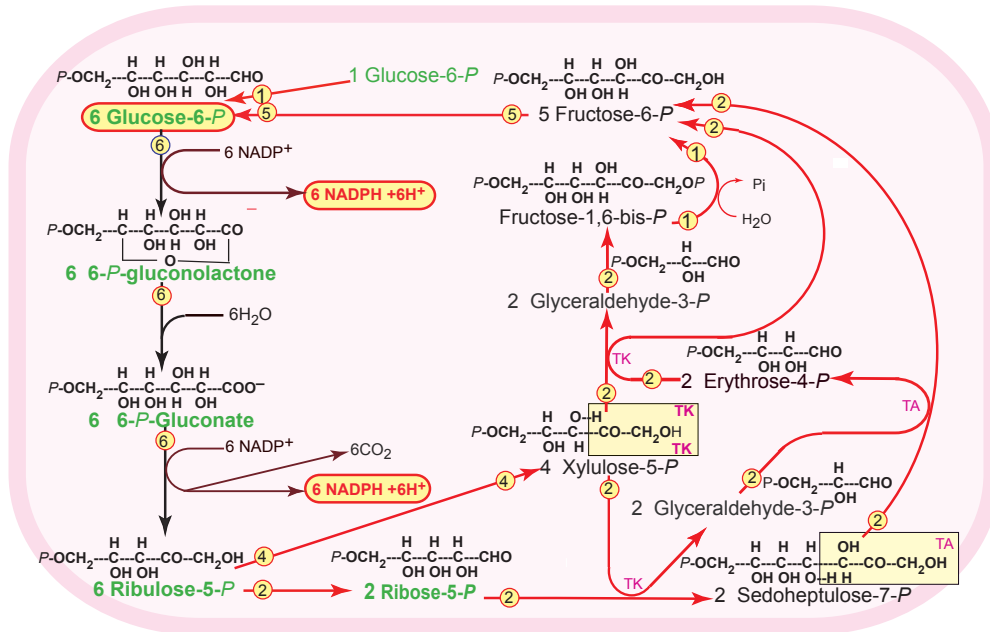


# PENTOSE PHOSPHATE PATHWAYS

## PATHWAY II

Cell requires **NADPH** but not **RIBOSE**



Pentose (6 Ribulose-5-P) not required is recycled to hexose (5 Glucose-6-P) (6C5 → 5C6)



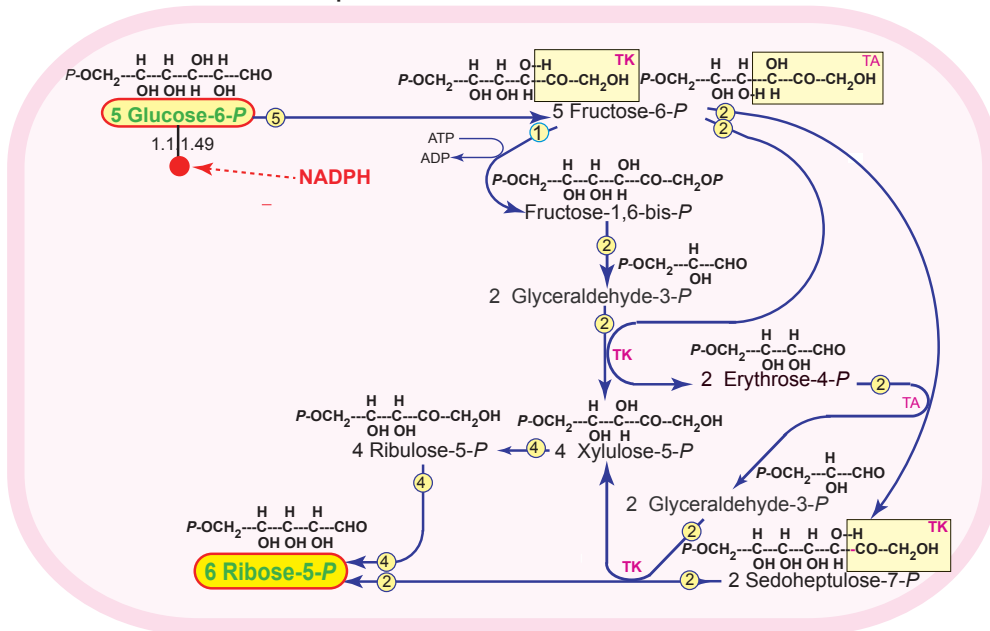
Thus, the equivalent of the 1 Glucose-6-P that feeds into this cycle is completely oxidised to CO<sub>2</sub> and NADPH

TA Transaldolase is (really) Dihydroxyacetone transferase (E.C. 2.2.1.2)

TK Transketolase is (really) Glycolaldehydetransferase (E.C. 2.2.1.1)

## PATHWAY III

Cell requires **RIBOSE** but not **NADPH**



Existing NADPH inhibits the first oxidative reaction - Glucose dehydrogenase 1.1.1.49

Glucose is then "recycled" to ribose by the reversal of most of Pathway II (5C6 → 6C5)

