

Pentose Phosphate Pathway

Stage	Enzyme	Reaction Characteristics		Irreversible?	Comments
		Noncarbohydrates			
		Substrate	Product		
Oxidative	glucose-6-phosphate dehydrogenase	NADP ⁺	NADPH	yes	Regulation by NADPH/NADP ⁺ ratio
	gluconolactonase	H ₂ O		yes	
	6-phosphogluconate dehydrogenase	NADP ⁺	NADPH, CO ₂	yes	
Nonoxidative	transketolase			no	transfers 2C unit from ketose to aldose
	transaldolase			no	transfers 3C unit from ketose to aldose