

Critical Prokaryotic Precursor Metabolites

Metabolite	Major Function	Source
Glucose-6-phosphate	Nucleotide synthesis	Glycolysis, PPP
Fructose-6-phosphate	Amino acid synthesis Microbial cell wall structure	Glycolysis, PPP
Ribose-5-phosphate	Nucleic acid synthesis	PPP
Erythrose-4-phosphate	Amino acid synthesis	PPP
Triose phosphate	Lipid (i.e., cell wall) synthesis	Glycolysis
3-phosphoglycerate	Amino acid synthesis	Glycolysis, PPP
Oxaloacetate	Amino acid synthesis	TCA cycle
Acetyl-CoA	Lipid synthesis	TAC cycle
Succinyl CoA	Major energy intermediate	TCA cycle
Phosphoenolpyruvate	Amino acid synthesis	Glycolysis
Pyruvate	"gateway" to TCA cycle Amino acid synthesis	Glycolysis
α -ketoglutarate	Amino acid synthesis	TCA cycle

Precursor metabolites

- Intermediate products produced in catabolic pathways
 - Catabolism=breakdown of larger molecules for energy
- Used in anabolic pathways
 - Anabolism= construction of macromolecules using catabolic products