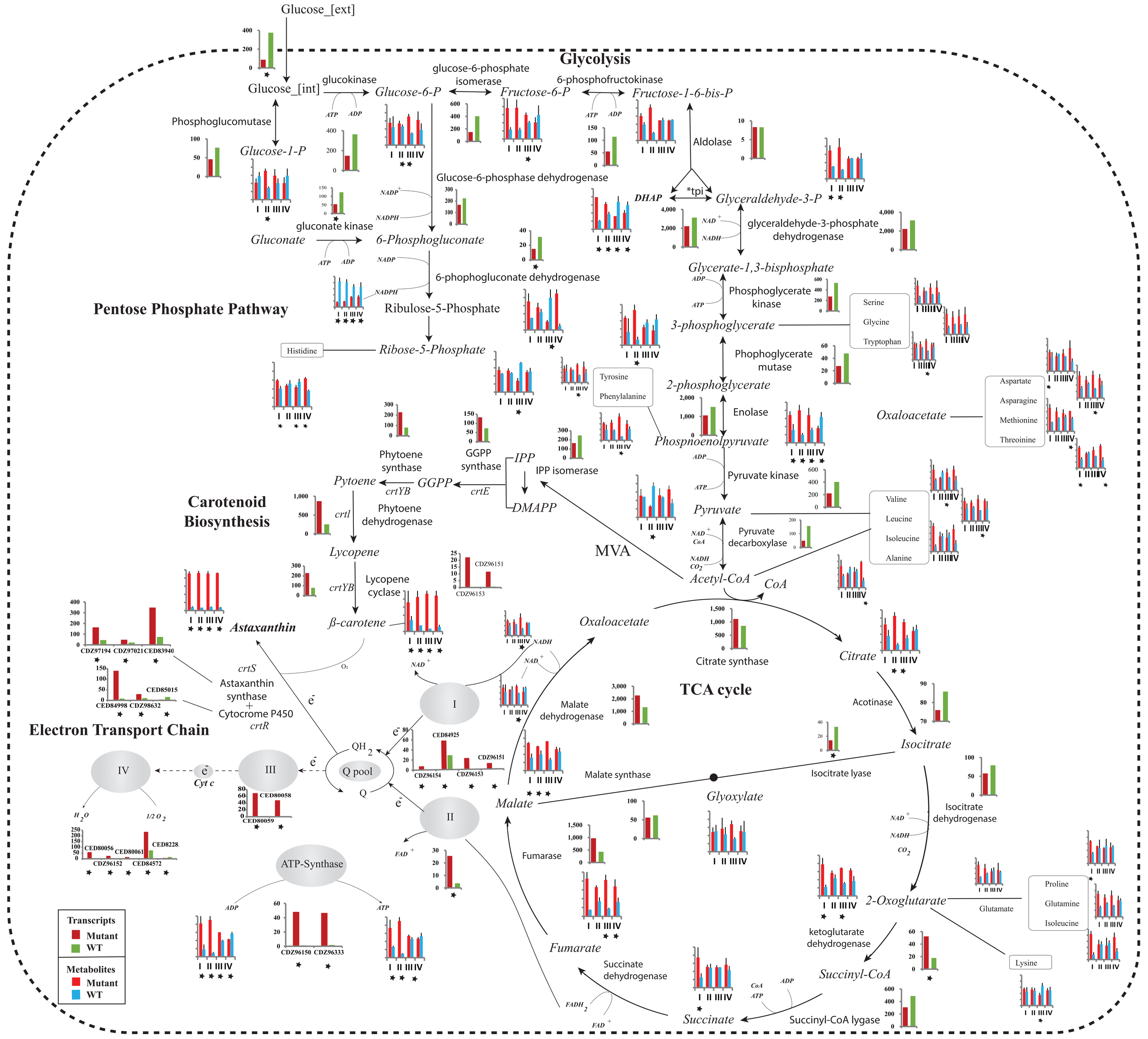
Glycolysis
Glucose_[ext]
Glucose_[int]
glucokinase
ATP
ADP
Glucose-6-P
glucose-6-phosphate isomerase
Fructose-6-P
6-phosphofructokinase
Fructose-1-6-bis-P
Aldolase
Phosphoglucomutase
Glucose-1-P
Glucose-6-phosphase dehydrogenase
NADP+
NADPH
DHAP
*tpi
Glyceraldehyde-3-P
gluconate kinase
Gluconate
6-Phosphogluconate
NAD+
NADH
glyceraldehyde-3-phosphate dehydrogenase
Glycerate-1,3-bisphosphate
Pentose Phosphate Pathway
6-phophogluconate dehydrogenase
Ribulose-5-Phosphate
Phosphoglycerate kinase
3-phosphoglycerate
Serine
Glycine
Tryptophan
Histidine
Ribose-5-Phosphate
Phophoglycerate mutase
2-phosphoglycerate
Tyrosine
Phenylalanine
Enolase
Phosphoenolpyruvate
Oxaloacetate
Aspartate
Asparagine
Methionine
Threoinine
Phytoene synthase
GGPP synthase
IPP
IPP isomerase
Pytoene
GGPP
crtYB
crtE
DMAPP
Pyruvate kinase
Carotenoid Biosynthesis
crtI
Phytoene dehydrogenase
Pyruvate
Valine
Leucine
Isoleucine
Alanine
Pyruvate decarboxylase
CoA
Lycopene
MVA
Acetyl-CoA
crtYB
Lycopene cyclase
CDZ96151
CDZ96153
Oxaloacetate
Citrate synthase
Citrate
Astaxanthin
ß-carotene
CDZ97194
CDZ97021
CED83940
crtS
Astaxanthin synthase
+
Cytocrome P450
crtR
CED85015
CED84998
CDZ98632
Malate dehydrogenase
TCA cycle
Acotinase
Isocitrate
Electron Transport Chain
I
QH2
Q pool
Q
III
IV
Cyt c
CED84925
CDZ96154
CDZ96153
CED80058
CED80059
Malate synthase
Isocitrate lyase
Malate
Glyoxylate
Isocitrate dehydrogenase
H2O
1/2 O2
CED80056
CED80061
CED8228
CDZ96152
CED84572
II
FAD+
Fumarase
ATP-Synthase
ADP
ATP
CDZ96150
CDZ96333
2-Oxoglutarate
Glutamate
Proline
Glutamine
Isoleucine
ketoglutarate dehydrogenase
Fumarate
Succinyl-CoA
Lysine
Succinate dehydrogenase
FADH2
Succinate
Succinyl-CoA lygase
Transcripts
Mutant
WT
Metabolites
Mutant
WT