SUPERFOCUS Overview Subsystems Level 2 General Stress Response and Stationary Phase Response Isoprenoid/cell wall biosynthesis: PREDICTED UNDECAPRENYL DIPHOSPHATE PHOSPHATASE clustering of 2 heat shock proteins, phosphoenolpyruvate carboxykinase and a putative hydrolase Hypothetical protein possible functionally linked with Alanyi-tRNA synthetase ins, phosphoenolpyruvate carboxykinase and a putative hydrolase all protein possible functionally linked with Alanyl-tRNA synthetase inorganic sulfur assimilation. Programmed Cell Death and Toxin—antitoxin Systems Translation TidD cluster Probably GTP or GMP signaling related Hypothetical Related to Dihydroorate Denydrogenase tRNA sulfuration Plant Hormones Plant Alkaloids Periplasmic Stress Putrescine/GABA utilization cluster—temporal, to add to SSs Protein and nucleoprotein secretion system. Type IV Coenzyme A Hypothetical in Lysine biosynthetic cluster Cytochrome biogenesis Sulfatases and sulfatase modifying factor 1 (and a hypothetical) Urate degradation DNA uptake, competence Bacteriocins, ribosomally synthesized antibacterial peptides Tansposable elements Phages, Prophages Biosynthesis of galactoglycans and related lipopolysacharides Pyridoxine Protein translocation across cytoplasmic membrane Exprended Protein translocation across cytoplasmic membrane Isoprenoids proteosome related DNA polymerase III epsilon cluster Aminosugars

Metabolism of central aromatic intermediates Putative Isoquinoline 1-oxidoreductase subunit Riboflavin, FMN, FAD Fe-S clusters Protein export?

Gram-Positive cell wall components Gram-Positive cell wall components
Quinone cofactors
Fermentation
Protein processing and modification
Organic acids
Lipoic acid
Fatty acid metabolic cluster
DNA recombination
Peripheral pathways for catabolism of aromatic compounds
Oxidative stress
Cell Division
Sugar alcohols
Histidine Metabolism
Protein secretion system, Type VI
Polysaccharides
Capsular and extracellular polysacchrides
Heat, shock
Detoxification F Ī Biotin

DNA replication

Branched-chain amino acids

Osmotic stress

Gram-Negative cell wall components

Electron accepting reactions

Monosaccharides

Alanine, serine, and glycine

Lysine, threonine, methionine, and cysteine

Protein biosynthesis

NAD and NADP

aspartate, asparagine; ammonia assimilation Glutamine, glutamate, aspartate, asparagine; ammonia assimilation Electron donating reactions Central carbohydrate metabolism RNA processing and modification RNA processing and modification Folate and pterines ATP synthases CO2 fixation Biologically active compounds in metazoan cell defence and differentiation Tricarboxylate transporter DNA repair Fatty acids Protein degradation Pyrimidines Transcription 30 0 5 10 15 20 n.abundance