

S2Table. Key enzymes involved in stress response in BUN33 genome

Subsystem	Functional Roles
Osmotic stress	Osmotically inducible lipoprotein B precursor
	Osmotically inducible protein OsmY
	Aquaporin Z
	Outer membrane protein A precursor
	Ectoine hydroxylase (EC 1.17.-.-)
	L-ectoine synthase (EC 4.2.1.-)
	Diaminobutyrate-pyruvate aminotransferase (EC 2.6.1.46)
	Putative regulatory protein associated with the ectoine operon
	L-2,4-diaminobutyric acid acetyltransferase (EC 2.3.1.-)
	L-proline glycine betaine ABC transport system permease protein ProV (TC 3.A.1.12.1)
	L-proline glycine betaine ABC transport system permease protein ProW (TC 3.A.1.12.1)
	L-proline glycine betaine binding ABC transporter protein ProX (TC 3.A.1.12.1)
	High-affinity choline uptake protein BetT
	GbcA Glycine betaine demethylase subunit A
Oxidative stress	Superoxide dismutase [Fe] (EC 1.15.1.1)
	Redox-sensitive transcriptional activator SoxR
	Manganese superoxide dismutase (EC 1.15.1.1)
	transcriptional regulator, Crp/Fnr family
	Ferric uptake regulation protein FUR
	Redox-sensitive transcriptional activator SoxR
	Nitrite-sensitive transcriptional repressor NsrR
Cold shock	Cold shock protein CspE

Cold shock protein CspA

Cold shock protein CspD

Cold shock protein CspE

Heat shock Probable Fe(2+)-trafficking protein YggX

Ribosomal protein L11 methyltransferase (EC 2.1.1.-)

Nucleoside 5-triphosphatase RdgB (dHAPTP, dITP, XTP-specific) (EC 3.6.1.15)

Ribonuclease PH (EC 2.7.7.56)
