

Table 3: Effect of Low Fe Growth on Transcription of Genes in the Pigment Synthesis Pathway

Enzyme	<u>Gene Name</u>	<u>Gene Designation</u>	Regulation in LoFe (+) ↑ or (-) ↓	p-value
<u>Chl Biosynthesis</u>				
Glu-tRNA synthetase	<i>gltx</i>	s110179	--	
Glu-tRNA reductase	<i>hemA</i>	slr1808		
Glutamate-1-semialdehyde aminotransferase	<i>hemL/gsa</i>	s110117	--	
PBG synthase	<i>hemB</i>	s111994	--	
Porphobilinogen deaminase	<i>hemC</i>	slr1887	--	
Uroporphyrinogen III synthase	<i>hemD</i>	s110166	--	
Uroporphyrinogen III decarboxylase	<i>hemE</i>	slr0536	--	
Coproporphyrinogen III oxidase	<i>hemF</i> <i>O₂ - indep.</i> <i>hemN</i>	s111185 s111876 s111917	- 1.6X (12h) -4.0X (12h) -1.5X (12h)	0.0015 2×10^{-8} 0.0026
Protoporphyrinogen IX oxidase	<i>hemK</i>	s111237		
Ferrochelatase	<i>hemH</i>	slr0839		
Magnesium chelatase	<i>chlI</i> <i>chlH</i> <i>chlD</i>	slr1030 slr1055 slr1777	-- -- -1.8X	5×10^{-5}
Mg-protoporphyrin IX methyl-transferase	<i>ChlM</i>	slr0525	-1.5X	0.02
Cyclase	<i>BchE</i>	slr0905	-3.4X	2×10^{-8}
Protochlorophyllide reductase	<i>chlN</i> <i>chlB</i> <i>chlL</i>	slr0750 slr0772 slr0749	-6.3X (12h) ---	6×10^{-8}
Light-induced, Fe-subunit	<i>bchB (or bchK)</i>	ssr2049	-1.4X	0.04
Protochlorophyllide oxidoreductase	<i>pcr</i>	slr0506	+1.5X	0.014
Chlorophyll synthetase	<i>chlG</i>	slr0056	+1.7X	0.01
<u>Phycobilin Synthesis</u>				
Heme oxygenase	<i>ho1</i> <i>ho2</i>	slr1184 slr11875	-1.6X	0.02
Biliverdin reductase	<i>bvdR</i>	slr1784		