

Gene	Updated Gene Annotation	Protein ID	Description	Mutations	No. Observed mutations	
					NL	PL
SynWH7803_0099 ←	SYNWH7803_RS00480	WP_011932033.1	hypothetical protein	¹ D237N (<u>G</u> AC→ <u>A</u> AC)	0	1
intergenic				² intergenic (+21/-38)	2	0
SynWH7803_0102 →	SYNWH7803_RS00485	WP_011932036.1	glucose-1-phosphate thymidyltransferase	^{3,1} F135L (TT <u>C</u> →TT <u>A</u>); ⁴ P166P (CC <u>C</u> →CC <u>I</u>)	3	2
SynWH7803_0103 →	SYNWH7803_RS00490	WP_011932037.1	dTDP-4-dehydrorhamnose 3,5-epimerase	⁵ Q12H (CA <u>A</u> →CA <u>I</u>); ⁶ E34K (<u>G</u> AG→ <u>A</u> AG); ⁷ A95A (GC <u>C</u> →GC <u>I</u>); ⁸ R104C (<u>C</u> GC→ <u>I</u> GC)	0	4
SynWH7803_0104 →	SYNWH7803_RS00495	WP_011932038.1	dTDP-4-dehydrorhamnose reductase/NAD(P)-dependent oxidoreductase/ dTDP-4-keto-L-rhamnose reductase	⁹ G157G (GG <u>C</u> →GG <u>I</u>); ¹⁰ A158S (<u>G</u> CG→ <u>I</u> CG); ¹¹ N162I (A <u>A</u> C→A <u>I</u> C)	0	5
SynWH7803_0105 →	SYNWH7803_RS00500	WP_011932039.1	sugar transferase	¹² W305* (TG <u>G</u> →TG <u>A</u>); ¹³ V312I (<u>G</u> TC→ <u>A</u> TC)	2	0
SynWH7803_0140 ←	SYNWH7803_RS00670	WP_011932074.1	glycosyl transferase family protein	¹⁴ 2 bp→AC	0	1
SynWH7803_0219 ←	SYNWH7803_RS01065	WP_011932149.1	homology to GtrA, YdjC-family	¹⁶ L340P (C <u>I</u> T→C <u>C</u> T); ¹⁷ H275N (<u>C</u> AC→ <u>A</u> AC); ¹⁸ E102* (<u>G</u> AA→ <u>I</u> AA); ¹⁹ Y13* (T <u>A</u> C→T <u>A</u> <u>G</u>)	4	0
SynWh7803_0232 →	SYNWH7803_RS01130	WP_011932162.1	hypothetical protein/glcosyltransferase type A	¹⁵ P58T (<u>C</u> CG→ <u>A</u> CG)	0	1
SynWH7803_1386 ←	SYNWH7803_RS06815	WP_011933290.1	two-component system sensor histidine kinase	²⁰ Δ1 bp; ²¹ G344* (<u>G</u> GA→ <u>I</u> GA); ²² S341I (A <u>G</u> T→ATT); ²³ Δ1 bp	5	1