Transcriptional regulation of the glucose-6-phosphate transporter 2

Supplemental Appendix S1. Specific Arabidopsis gene loci for specific biochemical pathways

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Calvin-Benson Cycle

Gene	Name	Gene Locus	Reference
Rubisco large subunit	RBCL	AtCg00490	Peltier et al., 2006
Rubisco small subunit chain 1A	RBCS1A	At1g67090	Krebbers et al., 1988
Rubisco small subunit chain 1B	RBCS1B	At5g38430	Krebbers et al., 1988
Rubisco small subunit chain 2B	RBCS2B	At5g38420	Krebbers et al., 1988
Rubisco small subunit chain 3B	RBCS3B	At5g38410	Krebbers et al., 1988
Rubisco activase	RCA	At2g39730	Werneke and Ogren, 1989
Phosphoglycerate kinase 1	PGK1	At3g12780	Rosa-Téllez et al., 2018
Phosphoglycerate kinase 2	PGK2	At1g56190	Rosa-Téllez et al., 2018
Glyceraldehyde-3-phosphate dehydrogenase A subunit	GAPA-1	At3g26650	Marri et al., 2005
Glyceraldehyde-3-phosphate dehydrogenase A-2 subunit	GAPA-2	At1g12900	Marri et al., 2005; Peltier et al., 2006
Glyceraldehyde-3-phosphate dehydrogenase B subunit	GAPB	At1g42970	Marri et al., 2005
Triosephosphate isomerase	TPI	At2g21170	Chen and Thelen, 2010
Fructose-1,6-bisphosphate aldolase 1	FBA1	At2g1330	Lu et al., 2012
Fructose-1,6-bisphosphate aldolase 2	FBA2	At4g38970	Lu et al., 2012
Fructose-1,6-bisphosphate aldolase 3	FBA3	At2g01140	Lu et al., 2012
Frucotse-1,6-bisphosphatase	CFBP1	At3g54050	Serrato et al., 2009a
Frucotse-1,6-bisphosphatase	CFBP2	At5g64380	Serrato et al., 2009b
Transketolase	TKL1	At3g60750	Rocha et al., 2014
Sedoheptulose-1,7-bisphosphatase	SBPASE	At3g55800	Willingham et al., 1994
Ribose-5-phosphate isomerase	EMB3119	At3g04790	Howles et al., 2006
Ribulose-phosphate-3-epimerase	RPE	At5g61410	Favery et al., 1998

Phosphoribulokinase	PRK	At1g32060	Marri et al., 2005
Chloroplast protein 12-1	CP12-1	At2g47400	Singh et al., 2008
Chloroplast protein 12-2	CP12-2	At3g62410	Singh et al., 2008

Chloroplast G6P Shunt

Gene	Name	Gene Locus	Reference
Glucose-6-phosphate dehydrogenase 1	G6PDH1	At5g35790	Wakao and Benning, 2005
Glucose-6-phosphate dehydrogenase 2	G6PDH2	At5g13110	Wakao and Benning, 2005
Glucose-6-phosphate dehydrogenase 3	G6PDH3	At1g24280	Wakao and Benning, 2005
6-Phosphogluconolactonase 3	6PGL3	At5g24400	Xiong et al., 2009
6-Phosphogluconate dehydrogenase 1	PGD1	At1g64190	Hölscher et al., 2016
6-Phosphogluconate dehydrogenase 2	PD2	At3g02360	Hölscher et al., 2016

Starch Synthesis

Gene	Name	Gene Locus	Reference
Phosphoglucoisomerase 1	PGI1	At4g24620	Yu et al., 2000
Phosphoglucomutase 1	PGM1	At5g51820	Egli et al., 2010
ADP glucose pyrophosphorylase large subunit 1	APL1	At5g19220	Crevillén et al., 2005
ADP glucose pyrophosphorylase large subunit 2	APL2	At1g27680	Crevillén et al., 2005
ADP glucose pyrophosphorylase large subunit 3	APL3	At4g39210	Crevillén et al., 2005
ADP glucose pyrophosphorylase large subunit 4	APL4	At2g21590	Crevillén et al., 2005
ADP glucose pyrophosphorylase small subunit 1	APS1	At5g48300	Hendriks et al., 2003
Starch synthase 1	SS1	At5g24300	Delvallé et al., 2005
Starch synthase 2	SS2	At3g01180	Zhang et al., 2008
Starch synthase 3	SS3	At1g11720	Zhang et al., 2005
Starch synthase 4	SS4	At4g18240	Roldán et al., 2007
Granule bound starch synthase1	GBSS1	At1g32900	Tenorio et al., 2003
Starch branching enzyme1	BE1	At3g20440	Wang et al., 2010
Starch branching enzyme2	BE2	At5g03650	Dumez et al., 2006
Starch branching enzyme 3	BE3	At2g36390	Dumez et al., 2006
Isoamylase 1	ISA1	At2g39930	Delatte et al., 2005
Isoamylase 2	ISA2	At1g03310	Delatte et al., 2005
Glucan water dikinase 1	GWD 1	At1g10760	Ritte et al., 2002
Phosphoglucan water dikinase	PWD	At5g26570	Kötting et al., 2005

Sucrose Synthesis

Gene	Name	Gene Locus	Reference
Triose phosphate transporter	TPT	At5g46110	Schneider et al., 2002
Triose phosphate isomerase	CYTOTPI	At3g55440	Shih, 1994
Fructose-1,6-bisphosphate aldolase 5	FBA5	At4g26530	Lu et al., 2012
Fructose-1,6-bisphosphate aldolase 6	FBA6	At2g36460	Lu et al., 2012
Fructose-1,6-bisphosphate aldolase 7	FBA7	At4g26520	Lu et al., 2012
Fructose-1,6-bisphosphatase	CYFBP	At1g43670	García-Díaz et al., 2015
Pyrophosphate dependent fructose-6-phosphate 1-phosphotransferase α1 subunit	PFPα1	At1g20950	Lim et al., 2009
Pyrophosphate dependent fructose-6-phosphate 1-phosphotransferase α2 subunit	PFPα2	At1g76550	Lim et al., 2009
Pyrophosphate dependent fructose-6-phosphate 1-phosphotransferase β1 subunit	PFPβ1	At1g12000	Lim et al., 2009
Pyrophosphate dependent fructose-6-phosphate 1-phosphotransferase β2 subunit	PFPβ2	At4g04040	Lim et al., 2009
Phosphoglucoisomerase 2	PGI2	At5g42740	Kunz et al., 2014
Phosphoglucomutase 2	PGM2	At1g70730	Egli et al., 2010
Phosphoglucomutase 3	PGM3	At1g23190	Egli et al., 2010
UDP-glucose pyrophosphorylase 1	UGP1	At3g03250	Meng et al., 2008
UDP-glucose pyrophosphorylase 2	UGP2	At5g17310	Meng et al., 2008
Sucrose phosphate synthase A1	SPSA1	At5g20280	Volkert et al., 2014
Sucrose phosphate synthase A2	SPSA2	AT5g11110	Volkert et al., 2014
Sucrose phosphate synthase B	SPSB	At1g04920	Volkert et al., 2014
Sucrose phosphate synthase C	SPSC	At4g10120	Volkert et al., 2014
Sucrose phosphate phosphatase 2	SPP2	At2g35840	Albi et al., 2016
Sucrose phosphate phosphatase 3A	SPP3A	At3g54270	Albi et al., 2016
Sucrose phosphate phosphatase 3B	SPP3B	At3g52340	Albi et al., 2016

Cytosolic Glycolysis

Gene	Name	Gene Locus	Reference
Glyceraldehyde-3-phosphate dehydrogenase C1	GAPC1	At3g04120	Rius et al., 2008
Glyceraldehyde-3-phosphate dehydrogenase C2	GAPC2	At1g13440	Guo et al., 2014
Phosphoglycerate kinase 3	PGK3	At1g79550	Rosa-Téllez et al., 2018
Non-phosphorylating glyceraldehyde-3-phosphate dehydrogenase	GAPN	At2g24270	Rius et al., 2006
Phosphoglycerate mutase	iPGAM1	At1g09780	Zhao and Assmann, 2011
Phosphoglycerate mutase	iPGAM2	At3g08590	Zhao and Assmann, 2011
Enolase	ENO2	At2g36530	Eremina et al., 2015
Predicted cytosolic pyruvate kinase	PK1	At5g08570	Yanagisawa et al., 2004
Predicted cytosolic pyruvate kinase	PK2	At5g63680	Yanagisawa et al., 2004
Predicted cytosolic pyruvate kinase		At3g52990	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At2g36580	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At3g55650	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At5g56350	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At4g26390	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At3g04050	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At3g25960	Andre et al., 2007
Predicted cytosolic pyruvate kinase		At3g55810	Andre et al., 2007

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