

**Supplementary Information for *Folivory elicits a strong defense reaction in *Catharanthus roseus*: metabolomic and transcriptomic analyses reveal distinct local and systemic responses***

Thomas Dugé de Bernonville<sup>1</sup>, Inès Carquejole<sup>1\*</sup>, Amad Lanoou<sup>1</sup>, Florent Lafontaine<sup>1</sup>, Paloma Sánchez Beliz, Franziska Liesecke<sup>1</sup>, Karine Musset<sup>3</sup>, Audrey Oudin<sup>1</sup>, Gaëlle Giévaec<sup>1</sup>, Olivier Pichon<sup>1</sup>, Sébastien Besseau<sup>1</sup>, Marc Clastre<sup>1</sup>, Benoît St-Pierre<sup>1</sup>, Victor Fiorz<sup>2</sup>, Stéphane Maury<sup>4</sup>, Elisabeth Huguet<sup>3</sup>, Sarah E. O'Connor<sup>5</sup>, Vincent Courdavault<sup>1†</sup>

\*These authors have contributed equally to this work.

<sup>1</sup>Université François-Rabelais de Tours, EA2106 "Biomolécules et Biotechnologies Végétales", Tours, France.

<sup>2</sup>Metabolic Integration and Cell Signaling Group, Plant Physiology Section, Department of CAMN, Universitat Jaume I, Spain.

<sup>3</sup>Institut de Recherche sur la Biologie de l'Insecte, UMR 7261, CNRS/Université François-Rabelais de Tours, Tours, France.

<sup>4</sup>Université d'Orléans, CoST, Laboratoire de Biologie des Ligneux et des Grandes Cultures (LBLCG), EA 1207, USC1328 INRA, Orléans, France.

<sup>5</sup>The John Innes Centre, Department of Biological Chemistry, Norwich NR4 7UH, United Kingdom.

†Corresponding author :

Vincent Courdavault  
Université François-Rabelais de Tours - EA2106 "Biomolécules et Biotechnologies Végétales", UFR Sciences et Techniques, 37200, Tours, France

Tel : +33 (0) 247363923

e-mail: vincent.courdavaul@univ-tours.fr

This pdf file contains internal links which will help you browsing the present Supplementary Information.

**Content of the Supplementary Information:**

[Supplemental Figure S1](#), *M. sexta* is able to feed on *C. roseus*. A preferential choice assay. Caterpillars were laid besides *N. tabacum* (Nta) and *C. roseus* (Cro) leaf discs. Pictures were taken 5' (left) and 120' (right) after the beginning of the experiment. B. Larval weights obtained 24h, 48h et and 72h after continuous feeding on *N. tabacum* and *C. roseus*. Pictures on the right show typical consumed areas on each plant after 2h (top) and 24h (down). C. Left panel, *M. sexta* larvae dissected after 24h of feeding on *N. tabacum* (left) or *C. roseus* (right) showing the presence of plant tissues in the intestinal tract. Right panel, dissection of caterpillar after 72h feeding on *C. roseus* showing intense browning of the intestinal tract. D. Targeted LC-MS analysis of catharanthine, vindoline and anhydrovinblastine in leaf tissues and caterpillar intestinal tract (sampled on the larva shown in right panel of C).

[Supplemental Figure S2](#), Experimental design to test Mx accumulation in leaves of *C. roseus* during herbivory. A. design for metabolic analysis. B. comparison of caterpillar and mechanical wounding effects - During 2 hours, leaves were subjected to caterpillar attack or to mechanical wounding (performed with a clamp every 10 min to mimic the chewing effect - similar area of leaves were removed). 48h and 72h post-treatment, leaves were collected and stricostidine quantified. C. design for transcriptomic analyses.

[Supplemental Figure S3](#), PFAM domains enriched in transcripts up-regulated in leaves of *C. roseus* after *M. sexta* herbivory. List of differentially expressed transcripts were obtained for individual experiments (Figure 4). The number of transcripts is indicated for each domain by a dot which diameter is proportional to the p-value of enrichment using (hypergeometric distribution). Only PFAM attributed to more than 4 transcripts are represented.

[Supplemental Figure S4](#), Motifs significantly enriched in the 300bp promoters of up-regulated transcripts. Motifs were discovered with DREME from MEME suite.

[Supplemental Table S1](#), Description of transcripts up-regulated upon challenge with *M. sexta* found in the intersections between lists of each experiment.

[Supplemental Table S2](#), Description of transcripts down-regulated upon challenge with *M. sexta* found in the intersections between lists of each experiment.

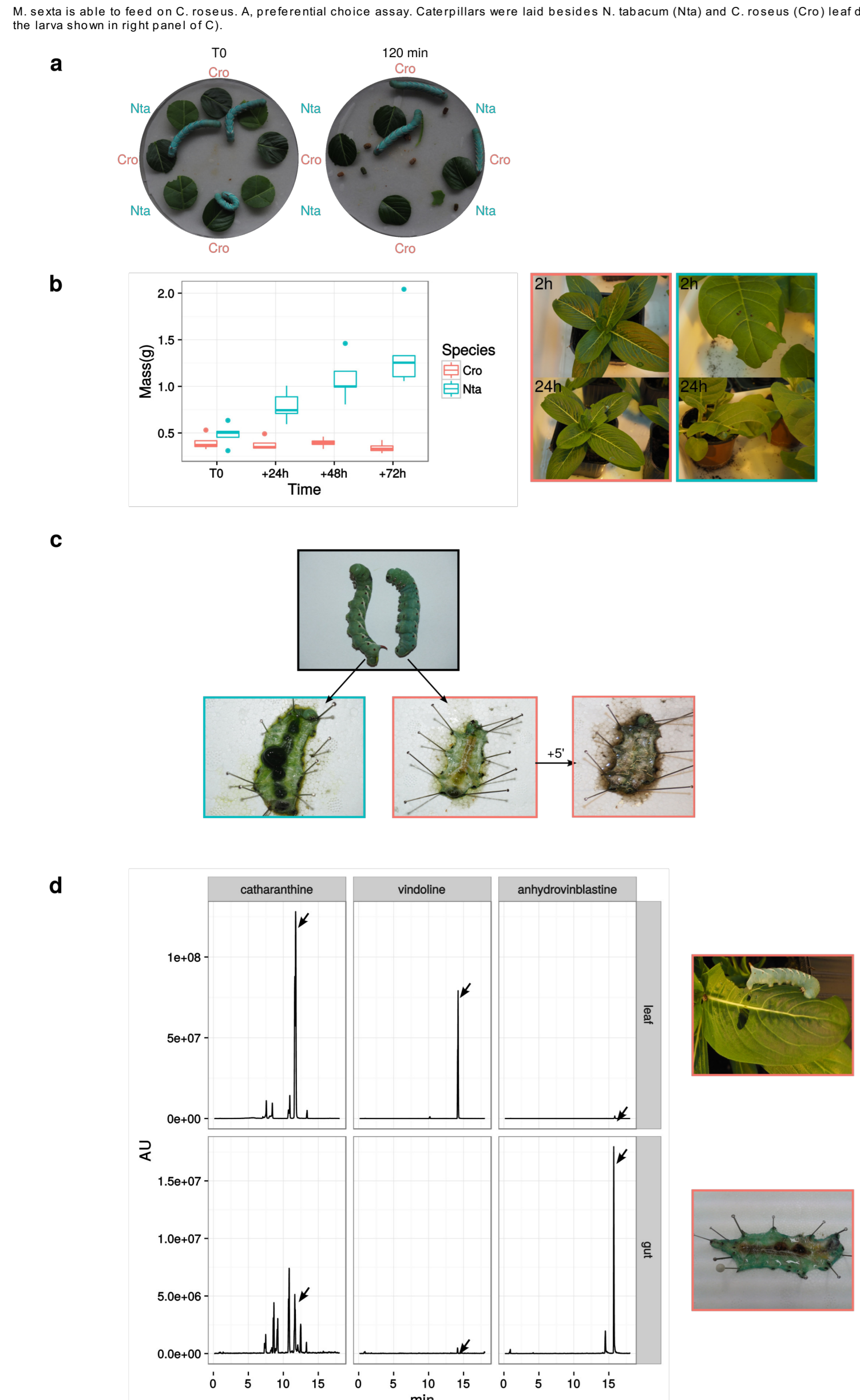
[Supplemental Table S3](#), Most represented Uniprot keywords in transcripts modulated upon challenge with *M. sexta*. Enrichment tests were performed by comparison with a hypergeometric distribution.

[Supplemental Table S4](#), Most represented PFAM domains Uniprot keywords in transcripts modulated upon challenge with *M. sexta*. Enrichment tests were performed by comparison with a hypergeometric distribution.

[Supplemental Table S5](#), Primers used in this study.

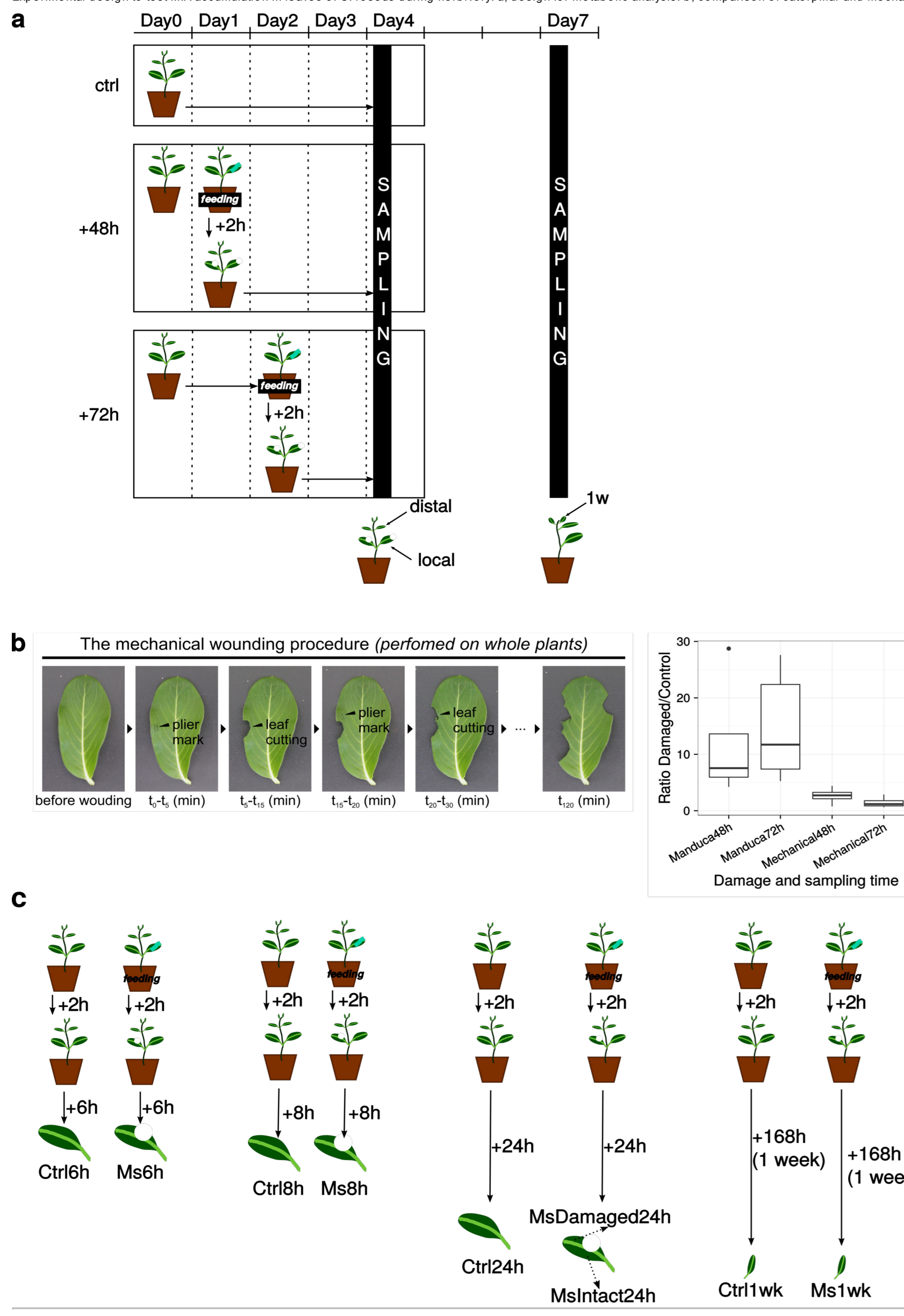
**Supplemental Figure S1**

*M. sexta* is able to feed on *C. roseus*. A. preferential choice assay. Caterpillars were laid besides *N. tabacum* (Nta) and *C. roseus* (Cro) leaf discs. Pictures were taken 5' (left) and 120' (right) after the beginning of the experiment. B. Larval weights obtained 24h, 48h et and 72h after continuous feeding on *N. tabacum* and *C. roseus*. Pictures on the right show typical consumed areas on each plant after 2h (top) and 24h (down). C. Left panel, *M. sexta* larvae dissected after 24h of feeding on *N. tabacum* (left) or *C. roseus* (right) showing the presence of plant tissues in the intestinal tract. Right panel, dissection of caterpillar after 72h feeding on *C. roseus* showing intense browning of the intestinal tract. D. Targeted LC-MS analysis of catharanthine, vindoline and anhydrovinblastine in leaf tissues and caterpillar intestinal tract (sampled on the larva shown in right panel of C).



**Supplemental Figure S2**

Experimental design to test Mx accumulation in leaves of *C. roseus* during herbivory. A. design for metabolic analysis. B. comparison of caterpillar and mechanical wounding effects - During 2 hours, leaves were subjected to caterpillar attack or to mechanical wounding (performed with a clamp every 10 min to mimic the chewing effect - similar area of leaves were removed). 48h and 72h post-treatment, leaves were collected and stricostidine quantified. C. design for transcriptomic analyses.







Accession	Gene	Protein	EC	Enzyme	Substrate	Product	Pathway	Reference
SRR64703_TR4246_c0_g1_i1	DHAS_SVNY3	P1240_23347-334	5.1.7.10	E8-B-118	Aspartate-semialdehyde dehydrogenase	Aspartate-semialdehyde + NAD	Aspartate-semialdehyde dehydrogenase (ASADH) (EC 2.1.1.1) (Aspartate-beta-semialdehyde dehydrogenase)	and s0r549
SRR64703_TR4329_c0_g1_i1	CYS2_CUCMA	Q197_1708.H.12515	6.9.9.10	E0	Citrate synthase, glyoxysomal	Citrate + CoA	Citrate synthase, glyoxysomal (EC 2.3.3.16) (GCS)	
SRR64703_TR4419_c0_g1_i1	MMT1_WEDBI	Q214_3025.H.11087	7.3.3.10	NA	Methionine S-methyltransferase	Methionine + S-adenosylmethionine	Methionine S-methyltransferase (EC 2.1.1.12) (AdoMet-MeS-methyltransferase)	
SRR64703_TR4633_c0_g1_i1	DBR_TB0AC	Q2133_3024.H.1343	1.1.1.1	E0	2-alkenal reductase (NADPH-dependent)	2-alkenal + NADPH	2-alkenal reductase (NADPH-dependent) (EC 1.1.1.1) (Amenal double bond reductase) (Allyl alcohol dehydrogenase) (NDR) (Purgane reductase) (NDR-1)	
SRR64703_TR4633_c0_g1_i1	UGTS_GARJA	Q2133_3024.H.1343	1.1.1.1	E1-E107	Beta-glucosyl coenzyme beta-1,4-galactosyltransferase	Beta-D-glucopyranosyl coenzyme + Galactose	Beta-glucosyl coenzyme beta-1,4-galactosyltransferase (EC 2.4.1.30) (UDP-glucosyltransferase 9) (UGT9)	
SRR64703_TR4633_c0_g1_i1	RS3H_AR15410	Q2133_3024.H.1343	2.7.1.1	E0	Probable GTP diphosphatase RS3H, chloroplast	GTP + H <sub>2</sub> O	Probable GTP diphosphatase RS3H, chloroplast (EC 2.7.1.1) (RelA/SpoT homolog 3) (ARSH3)	
SRR64703_TR4633_c0_g1_i1	PGM1_MESC	Q2133_3024.H.1343	2.3.1.1	E0	2,3-bisphosphoglycerate-independent phosphoglycerate mutase	2,3-bisphosphoglycerate	2,3-bisphosphoglycerate-independent phosphoglycerate mutase (BPG-independent PGAM) (Phosphoglyceromutase) (EC 5.4.2.12) (PGAM4)	
SRR64703_TR4633_c0_g1_i1	HEMI1_CUCSA	Q208_1378.H.35452	1.9.1.10	E0	GlutamyRNA reductase, chloroplast	GlutamyRNA	GlutamyRNA reductase, chloroplast (GluTR) (EC 1.2.1.70)	
SRR64703_TR4633_c0_g1_i1	TT12_ARATH	Q1781_216.H.51493	E2-6-93	E2-6-93	Trans-esterase di-O-methyltransferase	Trans-esterase di-O-methyltransferase	Trans-esterase di-O-methyltransferase (EC 2.1.1.240) (Reversal O-methyltransferase) (ROMT) (VORMT)	
SRR64703_TR4633_c0_g1_i1	LG1_CITUN	Q1702_204.H.11	3.6.6.10	E0	Limonene UDP-glucosyltransferase 4	Limonene + UDP-glucose	Limonene UDP-glucosyltransferase (LGTase) (Limonoid G3ase) (Limonoid glucosyltransferase) (EC 2.4.1.210)	
SRR64703_TR4633_c0_g1_i1	AKR9C_AR23770	Q2133_3024.H.1343	1.1.1.1	E0	Aldehyde reductase family 4 member C9	Aldehyde	Aldehyde reductase family 4 member C9 (EC 1.1.1.1)	
SRR64703_TR4633_c0_g1_i1	AAT1_EMB129	Q2133_3024.H.1343	2.3.1.1	E0	Acetyl-CoA acetyltransferase, cytosolic 1	Acetyl-CoA + Acetyl-CoA	Acetyl-CoA acetyltransferase, cytosolic 1 (EC 2.3.1.9) (Cytosolic acetyl-CoA thioesterase 1) (Thioesterase 1) (Protein EMB129) (SPECTIVE 129)	
SRR64703_TR4633_c0_g1_i1	EXP1A_ARATH	Q208_1378.H.35452	1.9.1.10	E0	Expansin A1 (AEXPA1)	Cell wall	Expansin A1 (AEXPA1) (Alpha-expansin 1) (AEXP1) (AExp-Alpha-1.2)	
SRR64703_TR4633_c0_g1_i1	TPGD0_VTVI	Q1240_13407	4.1.3.1	E2-6-111	(gamma)-terpene diphosphate synthase	(gamma)-terpene diphosphate	(gamma)-terpene diphosphate synthase (EC 4.2.3.22) (EC 4.2.3.75)	
SRR64703_TR4633_c0_g1_i1	VT12_ARATH	Q1742_143.H.189	7.5.2.6	E2-6-68	Vehicle transport vSNAME 12	Vehicle	Vehicle transport vSNAME 12 (AVT12) (Vehicle soluble NSF attachment protein receptor vT12) (AVT12) (Protein EMB129) (SPECTIVE 129)	
SRR64703_TR4633_c0_g1_i1	FRAG1_FRANR	Q1742_143.H.189	3.6.1.1	E0	Autorepressed 12.5 kDa protein	Autorepressed 12.5 kDa protein	Autorepressed 12.5 kDa protein	
SRR64703_TR4633_c0_g1_i1	SUT_SPDL	Q1240_13407	4.1.3.1	E0	Sucrose transport protein	Sucrose	Sucrose transport protein (Sucrose permease) (Sucrose-golgi symporter)	
SRR64703_TR4633_c0_g1_i1	ACX4_G6	Q1240_13407	4.1.3.1	E0	Acyl-coenzyme A oxidase 4, peroxisomal	Acyl-CoA	Acyl-coenzyme A oxidase 4, peroxisomal (ACX4) (Aox4) (SAX)	
SRR64703_TR4633_c0_g1_i1	WUN1_SOLTU	Q2081_607.H.1105	2.6.1.1	E2-6-43	Wound-induced protein 1	Wound-induced protein 1	Wound-induced protein 1	
SRR64703_TR4633_c0_g1_i1	GST2_MAIZE	Q2129_873.H.32	1.11.1.1	E2-6-41	Glutathione transferase GST 2	Glutathione + Conjugate	Glutathione transferase GST 2 (EC 2.5.1.18) (Glutathione transferase GST 36)	
SRR64703_TR4633_c0_g1_i1	NPC2_ARATH	Q2129_873.H.32	3.1.3.1	E0	Non-specific phospholipase C2	Phospholipid	Non-specific phospholipase C2 (EC 3.1.3.1)	
SRR64703_TR4633_c0_g1_i1	DCTP1_RAT	Q1702_204.H.11	2.7.1.1	E0	dCTP pyrophosphatase 1	dCTP	dCTP pyrophosphatase 1 (EC 3.6.1.12) (Deoxythymine diphosphatase 1) (dCTPase 1) (RS21C6) (XTPP-transacted gene A protein homolog)	
SRR64703_TR4633_c0_g1_i1	SRP	Q1702_204.H.11	6.3.4.1	E0	Stress-related protein	Stress-related protein	Stress-related protein	
SRR64703_TR4633_c0_g1_i1	VT12_ARATH	Q1742_143.H.189	7.5.2.6	E2-6-68	Vehicle transport vSNAME 12	Vehicle	Vehicle transport vSNAME 12 (AVT12) (Vehicle soluble NSF attachment protein receptor vT12) (AVT12) (Protein EMB129) (SPECTIVE 129)	
SRR64703_TR4633_c0_g1_i1	ERD2B_ARATH	Q2081_607.H.1105	5.5.1.1	E7-6-29	ER lumen protein-retaining receptor B	ER lumen protein	ER lumen protein-retaining receptor B	
SRR64703_TR4633_c0_g1_i1	KU2_ARATH	Q1240_13407	2.7.1.1	E0	Receptor-like protein kinase HAKU2	Receptor-like protein kinase HAKU2	Receptor-like protein kinase HAKU2 (EC 2.7.1.1)	
SRR64703_TR4633_c0_g1_i1	H1	Q1240_13407	3.1.3.1	E0	Homeobox protein SBH1	Homeobox protein SBH1	Homeobox protein SBH1	
SRR64703_TR4633_c0_g1_i1	ADG5300	Q1240_13407	3.1.3.1	E0	GDSL esterase/lipase ADG5300	GDSL esterase/lipase ADG5300	GDSL esterase/lipase ADG5300 (EC 3.1.1.1) (Extracellular lipase ADG5300)	
SRR64703_TR4633_c0_g1_i1	WRKY71	Q1240_13407	1.1.1.1	E0	Probable WRKY transcription factor 71	Probable WRKY transcription factor 71	Probable WRKY transcription factor 71 (WRKY DNA-binding protein 71)	
SRR64703_TR4633_c0_g1_i1	BCB32_ARATH	Q1240_13407	1.1.1.1	E0	Blue copper protein	Blue copper protein	Blue copper protein (Blue copper-binding protein) (ABC8) (Phycocyanin) (Stillicyanin)	
SRR64703_TR4633_c0_g1_i1	XTX30	Q1240_13407	3.1.3.1	E0	Probable xyloglucan endotransglucosylase/hydrolase protein 30	Probable xyloglucan endotransglucosylase/hydrolase protein 30	Probable xyloglucan endotransglucosylase/hydrolase protein 30 (AXTH30) (XTH-30) (EC 2.4.1.207)	
SRR64703_TR4633_c0_g1_i1	PCP	Q1240_13407	3.1.3.1	E0	Protein Pro-X carboxypeptidase	Protein Pro-X carboxypeptidase	Protein Pro-X carboxypeptidase (EC 3.14.23) (Proline carboxypeptidase) (Prolylcarboxypeptidase) (PCP)	
SRR64703_TR4633_c0_g1_i1	BLH1	Q1240_13407	3.1.3.1	E0	Homeobox protein MYB1R1	Homeobox protein MYB1R1	Homeobox protein MYB1R1 (Myb-related protein R1) (MYB1R1-1)	
SRR64703_TR4633_c0_g1_i1	TSAT_TAXWC	Q1240_13407	3.1.3.1	E0	Taxadien-5-epoxide O-acetyltransferase	Taxadien-5-epoxide O-acetyltransferase	Taxadien-5-epoxide O-acetyltransferase (EC 2.3.1.162) (Taxa420) (1112) (di-epoxide-O-acetyltransferase) (Taxadienyl acetyltransferase)	
SRR64703_TR4633_c0_g1_i1	PNP2	Q1240_13407	3.1.3.1	E0	Non-specific phospholipase C2	Non-specific phospholipase C2	Non-specific phospholipase C2 (EC 3.1.3.1)	
SRR64703_TR4633_c0_g1_i1	PGK3	Q1240_13407	3.1.3.1	E0	Phosphoglycerate kinase 3	Phosphoglycerate	Phosphoglycerate kinase 3 (EC 2.7.1.30) (Phosphoglycerate kinase 3) (PGK3)	
SRR64703_TR4633_c0_g1_i1	PP2C	Q1240_13407	3.1.3.1	E0	Protein phosphatase 2C	Protein phosphatase 2C	Protein phosphatase 2C (EC 3.1.3.1) (Protein phosphatase 2C) (PP2C)	
SRR64703_TR4633_c0_g1_i1	ADG5508	Q1240_13407	3.1.3.1	E0	GDSL esterase/lipase ADG5508	GDSL esterase/lipase ADG5508	GDSL esterase/lipase ADG5508 (EC 3.1.1.1) (Extracellular lipase ADG5508)	
SRR64703_TR4633_c0_g1_i1	NT2	Q1240_13407	3.1.3.1	E0	Probable inositol transporter 2	Probable inositol transporter 2	Probable inositol transporter 2	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	
SRR64703_TR4633_c0_g1_i1	CPK3	Q1240_13407	3.1.3.1	E0	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3	Calcium-dependent protein kinase 3 (EC 2.7.1.1) (Calcium-dependent protein kinase 3) (CPK3)	















































Accession	Gene	Protein	Function	EC	Substrate	Product	Pathway	Reference
SRR42023_TR1920_c2_g2_i1_len203	C18F1_ARATH	Q1361-1	1,166 C18F1_ARATH Cyclochrome P450 81F1 (EC 000330)	E9e-13	Cyclochrome P450 81F1 (EC 000330)	PF006719*450/Cyclochrome P450 81F1 (EC 000330)		0.83
SRR42023_TR4400_c1_g1_i1_len210	LACS7_ARATH	Q1361-1	Long chain acyl-CoA synthetase 7, peroxisomal	E9e-13	Long chain acyl-CoA synthetase 7, peroxisomal	PF005125*AMP-binding/AMP-binding domain14455E.6-4e-109		0.684
SRR42023_TR6649_c1_g1_i1_len210	RBP4C_ARATH	Q1361-1	Polyadenylate-binding protein RBP4C	E1a-23	Polyadenylate-binding protein RBP4C	PF007076*18*RM_1*RNA recognition motif (a.k.a. RRM, RBD, or RNP domain)*144E.1e-48 PF13893.3*RM_5*RNA recognition motif (a.k.a. RRM, RBD, or RNP domain)*144E.1e-48		0.257
SRR42023_TR6757_c1_g1_i1_len19	HSP11_SOYBN	Q1361-1	17S class I heat shock protein	E9e-13	17S class I heat shock protein (HSP17.5M)	PF00485_17*HSP17.5M		0.545
SRR42023_TR7075_c1_g1_i1_len161	BTBPOZ_ARATH	Q1361-1	BTB/POZ domain-containing protein Adg51330	E7a-7b	BTB/POZ domain-containing protein Adg51330	PF04605_7*BTB/CAS3/Barents e-FAH1 binding/14224E.2e-30		0.611
SRR42023_TR8361_c1_g1_i1_len288	NA	NA	NA	NA	NA	PF00598_4*ENHANCED DISEASE RESISTANCE 2-like/13*330*E.1.2e-6		0.561
SRR42023_TR8607_c1_g1_i1_len115	EDZL2_ARATH	Q1361-1	Protein ENHANCED DISEASE RESISTANCE 2-like	E1a-10	Protein ENHANCED DISEASE RESISTANCE 2-like	PF00598_4*ENHANCED DISEASE RESISTANCE 2-like/13*330*E.1.2e-6		0.561
SRR42023_TR9071_c1_g1_i1_len1517	PTFR2_ARATH	Q1361-1	Protein NTR1/PTFR FAMILY 2	E1a-68	Protein NTR1/PTFR FAMILY 2	PF00598_4*ENHANCED DISEASE RESISTANCE 2-like/13*330*E.1.2e-6		0.732
SRR42023_TR10607_c1_g1_i1_len619	RSZ72_ARATH	Q1361-1	40S ribosomal protein S27.3	E2a-82	40S ribosomal protein S27.3	PF00598_4*ENHANCED DISEASE RESISTANCE 2-like/13*330*E.1.2e-6		0.148
SRR42023_TR12080_c1_g1_i1_len102	ABT1_ARATH	Q1361-1	Protein ABC17, chloroplast	E3a-121	Protein ABC17, chloroplast	PF04605_7*BTB/CAS3/Barents e-FAH1 binding/14224E.2e-30		0.078
SRR42023_TR19508_c3_g1_i1_len931	NA	NA	NA	NA	NA	PF00598_4*ENHANCED DISEASE RESISTANCE 2-like/13*330*E.1.2e-6		0.034
SRR42023_TR20411_c2_g3_i1_len552	CHID_SOLLIC	Q1361-1	Basic endonuclease	E3a-59	Basic endonuclease	PF0182_16*Hydrolyase/19*Chitinase class I/PS25E.1.2e-66		0.173
SRR42023_TR24445_c1_g1_i1_len906	ISAM1_ARATH	Q1361-1	Intra-sulfur assembly protein IscA1.1	E3a-65	Intra-sulfur assembly protein IscA1.1	PF0182_16*Hydrolyase/19*Chitinase class I/PS25E.1.2e-66		0.513
SRR42023_TR26403_c3_g3_i1_len1890	SKP5_ARATH	Q1361-1	F-box protein SKP5	E4a-34	F-box protein SKP5	PF0182_16*Hydrolyase/19*Chitinase class I/PS25E.1.2e-66		0.819
SRR42023_TR26403_c2_g2_i1_len2408	PTIR1_ARATH	Q1361-1	Protein NTR1/PTFR FAMILY 3.1	E1a-101	Protein NTR1/PTFR FAMILY 3.1	PF00598_4*ENHANCED DISEASE RESISTANCE 2-like/13*330*E.1.2e-6		0.064
SRR42023_TR2707_c1_g1_i1_len253	ACD3X_ARATH	Q1361-1	Acyl-coenzyme A oxidase 3, peroxisomal	E3a-68	Acyl-coenzyme A oxidase 3, peroxisomal	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.415
SRR42023_TR2838_c1_g1_i1_len447	SAC8_ARATH	Q1361-1	Phosphoinositide phosphatase SAC8	E4a-21	Phosphoinositide phosphatase SAC8	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.252
SRR42023_TR28469_c1_g2_i1_len1024	NA	NA	NA	NA	NA	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.106
SRR42023_TR11019_c1_g2_i1_len792	NA	NA	NA	NA	NA	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.679
SRR42023_TR13497_c1_g1_i1_len1216	INZ1B_ORYSA	Q1361-1	Protein INZ1 homolog B (Glutathione S-transferase GSTZ)	E9e-99	Protein INZ1 homolog B (Glutathione S-transferase GSTZ)	PF13417_3*GST_Z1/Glutathione S-transferase/N-terminal domain/111-188*E.1e-20 PF13403_3*GST_Z2/Glutathione S-transferase/N-terminal domain/111-188*E.1e-20 PF13403_3*GST_Z2/Glutathione S-transferase/N-terminal domain/111-188*E.1e-20		0.494
SRR42023_TR20217_c1_g1_i1_len532	TC10_ARATH	Q1361-1	Transcription factor TC10	E1a-41	Transcription factor TC10	PF03634_10*TC10/TCF family transcription factor/168-172E.3e-34		0.017
SRR42023_TR24001_c1_g1_i1_len3305	SLK2_ARATH	Q1361-1	Probable transcriptional regulator SLK2	E4a-164	Probable transcriptional regulator SLK2	PF01803_13*SLK2/SLK family protein/291-301E.6e-50		0.196
SRR42023_TR24001_c2_g1_i1_len1202	NA	NA	NA	NA	NA	PF01803_13*SLK2/SLK family protein/291-301E.6e-50		0.2451
SRR42023_TR1244_c1_g1_i1_len3937	SYK_ARATH	Q1361-1	Small heat shock protein, chloroplast	E0	Small heat shock protein, chloroplast	PF01803_13*SLK2/SLK family protein/291-301E.6e-50		0.781
SRR42023_TR1359_c1_g1_i1_len3891	GLR3E_ARATH	Q1361-1	Glutamate receptor 3.6	E3a-6	Glutamate receptor 3.6	PF01803_13*SLK2/SLK family protein/291-301E.6e-50		0.248
SRR42023_TR2684_c1_g1_i1_len2058	NA	NA	NA	NA	NA	PF01803_13*SLK2/SLK family protein/291-301E.6e-50		0.248
SRR42023_TR11097_c1_g1_i1_len1004	IFSA3_SOLTU	Q1361-1	Eukaryotic translation initiation factor 5A3	E7a-102	Eukaryotic translation initiation factor 5A3	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.248
SRR42023_TR1837_c1_g1_i1_len1040	NA	NA	NA	NA	NA	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.792
SRR42023_TR18518_c1_g1_i1_len1873	DR100_ARATH	Q1361-1	DNA damage-repair/replication protein DR100	E5a-52	DNA damage-repair/replication protein DR100	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.027
SRR42023_TR19575_c1_g1_i1_len913	H52C2_PETHY	Q1361-1	Small heat shock protein, chloroplast	E1a-67	Small heat shock protein, chloroplast	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.629
SRR42023_TR20016_c1_g1_i1_len714	SDP1_ARATH	Q1361-1	Triacylglycerol lipase SDP1	E3a-10	Triacylglycerol lipase SDP1	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.419
SRR42023_TR21231_c1_g1_i1_len4545	NA	NA	NA	NA	NA	PF02070_76*Acyl-CoA oxidase/middle domain/182*300*E.7e-14 PF04441_21*Acyl-CoA oxidase/middle domain/182*300*E.7e-14		0.248
SRR42023_TR21232_c1_g1_i1_len1945	DCAM_CATRO	Q1361-1	Sadenosylmethionine decarboxylase proenzyme 5B	E3a-100	Sadenosylmethionine decarboxylase proenzyme 5B	PF01536_13*SAM decarboxylase/Sadenosylmethionine decarboxylase/93-123E.8e-110		0.1462
SRR42023_TR24831_c1_g1_i1_len1227	MSRB3_ORYSA	Q1361-1	Peptide methionine sulfide reductase B3, chloroplast	E3a-77	Peptide methionine sulfide reductase B3, chloroplast	PF01536_13*SAM decarboxylase/Sadenosylmethionine decarboxylase/93-123E.8e-110		0.689
SRR42023_TR25873_c1_g1_i1_len665	NA	NA	NA	NA	NA	PF01536_13*SAM decarboxylase/Sadenosylmethionine decarboxylase/93-123E.8e-110		0.433
SRR42023_TR25878_c1_g1_i1_len689	PR51_ARATH	Q1361-1	Pathogenesis-related protein 5.1	E2a-623	Pathogenesis-related protein 5.1	PF00407_16*PR51/Pathogenesis-related protein 5.1/1-162E.1e-12		0.629
SRR42023_TR18107_c1_g1_i1_len4751	PRS1_ARATH	Q1361-1	Pathogenesis-related protein 5.1	E2a-623	Pathogenesis-related protein 5.1	PF00407_16*PR51/Pathogenesis-related protein 5.1/1-162E.1e-12		0.629
SRR42023_TR13033_c1_g1_i1_len1834	TT12_ARATH	Q1361-1	Protein DETOXIFICATION 141 (ADTX141) (Muldip and toxic compound extrusion factor 141) (MATE) superfamily (1) (Protein TANNIN-INDUCIBLE SEED 3) (Protein TRANSPARENT TESTA 12)	E3a-136	Protein DETOXIFICATION 141 (ADTX141) (Muldip and toxic compound extrusion factor 141) (MATE) superfamily (1) (Protein TANNIN-INDUCIBLE SEED 3) (Protein TRANSPARENT TESTA 12)	PF01554_15*MATE/MATE/64-224E.2e-33 PF01554_15*MATE/MATE/64-224E.2e-33		0.429
SRR42023_TR1655_c1_g1_i1_len225	NA	NA	NA	NA	NA	PF01554_15*MATE/MATE/64-224E.2e-33 PF01554_15*MATE/MATE/64-224E.2e-33		0.574
SRR42023_TR19139_c1_g2_i2_len2408	VPE_CITSI	Q1361-1	Vacuolar processing enzyme	E7a-75	Vacuolar processing enzyme	PF01554_15*MATE/MATE/64-224E.2e-33 PF01554_15*MATE/MATE/64-224E.2e-33		0.689
SRR42023_TR19325_c1_g1_i1_len1234	RF56_ARATH	Q1361-1	Probable galactinol-6-epimerase/galactosyltransferase 6	E3a-177	Probable galactinol-6-epimerase/galactosyltransferase 6	PF00691_9*RF56/RF56 family protein/22-34E.2e-14		0.1024
SRR42023_TR19146_c1_g1_i1_len1040	NA	NA	NA	NA	NA	PF00691_9*RF56/RF56 family protein/22-34E.2e-14		0.999
SRR42023_TR19146_c2_g1_i1_len3614	NA	NA	NA	NA	NA	PF00691_9*RF56/RF56 family protein/22-34E.2e-14		0.678
SRR42023_TR19146_c3_g1_i1_len3514	LOXC1_ORYSA	Q1361-1	Lipoxygenase 7, chloroplast	E3a-76	Lipoxygenase 7, chloroplast	PF01477_16*LOXC1/PLAT/PLAT-like domain/144-212E.3e-07 PF01477_16*LOXC1/PLAT/PLAT-like domain/144-212E.3e-07		0.732
SRR42023_TR18161_c1_g1_i1_len2489	PLTS_ARATH	Q1361-1	Polyl transferase 5	E3a-109	Polyl transferase 5	PF00833_21*Super_5/Super and other transporter/38-49E.3e-109 PF07600_13*MF1/Major Facilitator Superfamily/M1-43*E.1e-28		0.207
SRR42023_TR18229_c1_g2_i1_len1555	NA	NA	NA	NA	NA	PF00833_21*Super_5/Super and other transporter/38-49E.3e-109 PF07600_13*MF1/Major Facilitator Superfamily/M1-43*E.1e-28		0.1237
SRR42023_TR18218_c1_g1_i1_len4404	POLX_TOBAC	Q1361-1	Retrovirus-related Pol polypeptide from transposon T1-164	E6a-42	Retrovirus-related Pol polypeptide from transposon T1-164	PF00833_21*Super_5/Super and other transporter/38-49E.3e-109 PF07600_13*MF1/Major Facilitator Superfamily/M1-43*E.1e-28		0.3668
SRR42023_TR13789_c1_g2_i1_len911	SUI1_ORYSA	Q1361-1	Protein translation factor SUI1 homolog	E1a-70	Protein translation factor SUI1 homolog	PF01253_19*SUI1/Translation initiation factor/SUI1/28-102E.6e-46		0.04
SRR42023_TR17889_c1_g1_i1_len1951	WRKY7_ARATH	Q1361-1	Probable WRKY transcription factor 7	E1a-60	Probable WRKY transcription factor 7	PF01833_19*WRKY/WRKY domain/Plant zinc cluster domain/231-286E.1e-12 PF01833_19*WRKY/WRKY domain/Plant zinc cluster domain/231-286E.1e-12		1.442
SRR42023_TR17898_c1_g1_i1_len2465	PRSP1_SPOL	Q1361-1	Ribosome-binding factor PRSP1, chloroplast	E3a-110	Ribosome-binding factor PRSP1, chloroplast	PF02482_16*Ribosomal_S30AE/Digamma 54 mutation protein/S30AE ribosomal protein/85-181E.2e-22 PF02482_16*Ribosomal_S30AE/Digamma 54 mutation protein/S30AE ribosomal protein/85-181E.2e-22		0.326
SRR42023_TR20006_c1_g1_i1_len1533	ACCH1_ARATH	Q1361-1	Acetyl-coenzyme A oxidase homolog 1	E3a-110	Acetyl-coenzyme A oxidase homolog 1	PF01425_3*ACCH1/Acetyl-coenzyme A oxidase homolog 1/1-11E.1e-11		0.208
SRR42023_TR21489_c1_g1_i1_len1215	SFR2_ORYSA	Q1361-1	Beta-glucosylidase-like SFR2, chloroplast	E5a-149	Beta-glucosylidase-like SFR2, chloroplast	PF02232_15*Glycoylidase/hydrolase family/178-228E.1e-23		0.507
SRR42023_TR22389_c1_g1_i1_len2247	FAD3E_TOBAC	Q1361-1	Omega-3 fatty acid desaturase, endoplasmic reticulum	E4a-104	Omega-3 fatty acid desaturase, endoplasmic reticulum	PF04872_14*Desaturase/Fatty acid desaturase/254-145E.2e-17		0.179
SRR42023_TR22688_c1_g1_i1_len4102	ERF2_ARATH	Q1361-1	Ethylene-responsive transcription factor 1B	E6a-45	Ethylene-responsive transcription factor 1B	PF01823_17*ERF2/ERF domain/110-159E.8e-14		0.631
SRR42023_TR28128_c1_g1_i1_len947	DOX1_ARATH	Q1361-1	Alpha-oxigenase 1	E2a-33	Alpha-oxigenase 1	PF01554_15*MATE/MATE/64-224E.2e-33 PF01554_15*MATE/MATE/64-224E.2e-33		0.853
SRR42023_TR28506_c1_g1_i1_len2388	LACE1_HUMAN	Q1361-1	Lactation elevated protein 1 (Protein AFG1 homolog)	E4a-78	Lactation elevated protein 1 (Protein AFG1 homolog)	PF03969_13*AFG1/LAT/Protein AFG1-like/ATPass/81-300E.2e-76		0.183
SRR42023_TR28750_c1_g1_i1_len2523	LRK8A_ARATH	Q1361-1	L-lysine lectin-domain containing receptor kinase 8A	E3a-174	L-lysine lectin-domain containing receptor kinase 8A	PF0139_19*Lectin_16/Lysine lectin domain/29-28E.2e-76 PF00669_22*Phenylalanine protein kinase domain/350-616E.3e-64		0.258
SRR42023_TR30204_c1_g1_i1_len2098	NA	NA	NA	NA	NA	PF0139_19*Lectin_16/Lysine lectin domain/29-28E.2e-76 PF00669_22*Phenylalanine protein kinase domain/350-616E.3e-64		0.342
SRR42023_TR30204_c2_g1_i1_len2698	NA	NA	NA	NA	NA	PF0139_19*Lectin_16/Lysine lectin domain/29-28E.2e-76 PF00669_22*Phenylalanine protein kinase domain/350-616E.3e-64		0.274
SRR42023_TR30204_c3_g1_i1_len2698	NA	NA	NA	NA	NA	PF0139_19*Lectin_16/Lysine lectin domain/29-28E.2e-76 PF00669_22*Phenylalanine protein kinase domain/350-616E.3e-64		0.243
SRR42023_TR30327_c1_g1_i1_len2182	CPK6_ARATH	Q1361-1	CE1-interacting serine/threonine protein kinase 12	E6a-68	CE1-interacting serine/threonine protein kinase 12	PF00859_23*CPK6/Protein kinase domain/46-300E.3e-77 PF07714_14*Protein kinase domain/46-300E.3e-77		0.693
SRR42023_TR30327_c2_g1_i1_len2854	SSLE_ARATH	Q1361-1	Protein STRUCTURE-SENSITIVE SYNTHASE LIKE 6	E1a-132	Protein STRUCTURE-SENSITIVE SYNTHASE LIKE 6	PF00859_23*CPK6/Protein kinase domain/46-300E.3e-77 PF07714_14*Protein kinase domain/46-300E.3e-77		0.072
SRR42023_TR30327_c3_g1_i1_len2082	CFBA_SWEAU	Q1361-1	Guaninol 8-epimerase	E2a-152	Guaninol 8-epimerase	PF006719*450/Cyclochrome P450 81F1 (EC 000330)		0.142
SRR42023_TR30327_c4_g1_i1_len2338	NSL1_ARATH	Q1361-1	MADCF domain-containing protein NSL1	E1a-11	MADCF domain-containing protein NSL1	PF01823_16*MACP/MADCF domain/108-324E.4e-43		0.781
SRR42023_TR30344_c1_g1_i1_len4811	AFS1_MALDO	Q1361-1	(E)-alpha-hemlock biosynase	E3a-81	(E)-alpha-hemlock biosynase	PF01554_15*MATE/MATE/64-224E.2e-33 PF01554_15*MATE/MATE/64-224E.2e-33		0.242
SRR42023_TR1188_c1_g2_i1_len1919	CBDA8_CANSA	Q1361-1	Cannabinoid acid synthase	E2a-120	Cannabinoid acid synthase	PF01554_15*MATE/MATE/64-224E.2e-33 PF01554_15*MATE/MATE/64-224E.2e-33		0.358
SRR42023_TR19599_c1_g2_i1_len1232	COL2_ARATH	Q1361-1	Zinc finger protein CONSTANS-LIKE 2	E1a-95	Zinc finger protein CONSTANS-LIKE 2	PF02033_11*ZINC_FINGER/CONSTANS-LIKE 2/1-14E.3e-16		0.2153
SRR42023_TR1614_c1_g2_i3_len1363	EF1D2_ARATH	Q1361-1	Elongation factor 1-delta 2	NA	Elongation factor 1-delta 2	PF07306_16*EF1_GNE/EF1 guanine nucleotide exchange domain/144-231E.1e-33		0.241
SRR42023_TR16630_c1_g2_i1_len627	NA	NA	NA	NA	NA	PF07306_16*EF1_GNE/EF1 guanine nucleotide exchange domain/144-231E.1e-33		0.786
SRR42023_TR18933_c1_g2_i1_len1099	HIS3_VITI	Q1361-1	Histone H3.3	E1a-86	Histone H3.3	PF02297_14*H3/H3 histone core domain c subunit/107-123E.1e-11		0.13
SRR42023_TR18933_c2_g1_i1_len2891	ALFJ3_ARATH	Q1361-1	Probable fructose-bisphosphate aldolase 3, chloroplast	E3a-107	Probable fructose-bisphosphate aldolase 3, chloroplast	PF02074_27*Frucoylidase/fructose-bisphosphate aldolase class I/PS139E.1e-158		0.1307
SRR42023_TR13457_c1_g3_i1_len2131	BGL4E_ARATH	Q1361-1	Beta-glucosidase 46	E3a-113	Beta-glucosidase 46	PF02232_15*Glycoylidase/hydrolase family/11-304E.2e-113		0.148
SRR42023_TR14783_c1_g1_i1_len2								

Accession	Gene	Species	Strain	Protein	Function	EC	Substrate	Product	Pathway
RRR024148	TR5782_c0_g1_i1=926	NA	NA	NA	NA	NA	NA	NA	
RRR024148	TR1619_c1_g1_i1=220	CPB22_HORVU	O1605_46615A5436	69.97%ND	E0	Serine carboxypeptidase B2			
RRR024148	TR6586_c0_g2_i1=1355	NA	NA	NA	NA	NA	NA		
RRR024148	TR12937_c0_g1_i1=1992	MASY_RICCO	O1910_10431B1560	88.65%ND	E0	Malate synthase, glyoxysomal			
RRR024148	TR17036_c0_g2_i1=407	APKI_ARATH	Q1284_10431B1560	85.6%ND	E4e-145	L-ascorbate peroxidase 1, cytosolic			
RRR024148	TR20264_c1_g4_i1=14616	GATLA_ARATH	O2866_17023F3137	65.14%ND	E1e-111	Probable galacturonosyltransferase like 10			
RRR024148	TR20791_c0_g2_i1=9878	NA	NA	NA	NA	NA	NA		
RRR024148	TR28513_c0_g1_i1=780	NA	NA	NA	NA	NA	NA		
RRR024148	TR30094_c0_g1_i1=108	NA	NA	NA	NA	NA	NA		
RRR024148	TR20919_c1_g1_i1=921	HRK11_ARATH	O1051_1306X1224306	83.72%ND	E2e-43	Probable WRKY transcription factor 11			
RRR024148	TR30978_c0_g2_i1=968	NA	NA	NA	NA	NA	NA		

### Msinact24h

Transcript (CPD7)	Uniprot homolog	BLASTX Position	BLASTX Identity	BLASTX Evalue	Uniprot descr	Pfam	PValue_Mesh	logFC_Mesh	PValue_Mesh	logFC_Mesh	PValue_MaDamaged24h	logFC_MaDamaged24h	PValue_Mainact24h	logFC_Mainact24h	PValue_Mstkw	logFC_Mstkw	Entry name	Protein names	Gene names	Organism	Pathway	Keywords	
RRR144633_TR1127_c0_g1_i1=8178	PPI_ORYSJ	Q1361_1201A115116	89.74%ND	E0	Serine/threonine-protein phosphatase PP1	PF1889_1201PFAU	0.87	0.08	0.041	0.692	0.004	1.287	0	1.577	0.931	-0.077	PPI_ORYSJ	Serine/threonine-protein phosphatase PP1 (EC 3.1.3.16)	Oryza sativa subsp. japonica (Rice)		Complete proteome; Hydroxamate; Manganese; Metal-binding; Protein phosphatase; Reference proteome		
RRR144633_TR1935_c0_g1_i1=9880	XPO2_ARATH	Q2323087A1_1_950	70.29%ND	E0	Exportin 2	PF0210_1618N	0.817	-0.572	0.017	1.373	0.008	1.232	0.001	1.59	1	0.421	XPO2_ARATH	Exportin (Exp2) (Carboxyl exportin subunit protein) (Importin alpha $\alpha$ -exporter)	CAS AG246520 11C10 F13A10.5	Arabidopsis thaliana (Mouse-ear cress)	PATHWAY: Carbohydrate metabolism; glyoxylate cycle; (S)-malate from isocitrate; step 23; Glyoxylate bypass; Glyoxysome; Peroxisome; Transference; Tricarboic acid cycle		
RRR144633_TR11716_c0_g2_i1=11671	PAP3_BRACM	Q1061865350	63.79%ND	E2e-115	Plastid lipid-associated protein 3, chloroplast	PF04755_9PAP_PAP_Scrtilin	0.897	0.041	0.177	0.405	0.004	1.988	0	1.234	0.317	0.041	PAP3_BRACM	Plastid lipid-associated protein 3, chloroplast	PAP3	Brassica campestris (Rapeseed mustard)	Chloroplast; Plastid; Transit peptide		
RRR144633_TR14448_c0_g1_i1=850	GSTF6_ARATH	Q107300_H1_211	83.24%ND	E1e-77	Glutathione S-transferase F11	PF02788_17GSTF6	1	0	0.254	4.716	0.066	5.392	0	6.783	1	-1.578	GSTF6_ARATH	Glutathione S-transferase F11 (AGSF11) (EC 2.5.1.18) (AGSTFR) (GST class-0) (GST class-0) member 11)	GSTF11 GSTF6 AGS31910 T18822_12	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Cytoplasm; Dechlorination; Reference proteome; Transferrin		
RRR144633_TR15197_c0_g2_i1=2404	ASPO1_ARATH	Q1183_H1106580	37.93%ND	E5e-70	Protein ASPARTIC PROTEASE IN GUARD CELL 1	PF02026_2026P	1	-0.005	0.043	-0.64	0.002	1.142	0	1.363	0	-0.642	ASPO1_ARATH	Protein ASPARTIC PROTEASE IN GUARD CELL 1 (AASP1) (EC 3.4.23.3)	ASPO1 AG15489 MYF2422	Arabidopsis thaliana (Mouse-ear cress)	Aspartyl protease; Complete proteome; DNA-binding; Disulfide bond; Endoplasmic reticulum; Hydrolyase; Protease; Reference proteome; Signal		
RRR144633_TR19956_c0_g2_i1=2028	TAL_SHEAM	Q10238_12532	35.47%ND	E1e-46	Transaldolase (EC0000255)HAMAP: Rule.MF_04943	PF09293_16Transaldolase	0.741	0.119	0.381	0.3	0.012	1.103	0	1.457	0.002	2.638	TAL_SHEAM	Transaldolase (EC 2.2.1.2)	tal_Seam_0913	Shewania amazonensis (strain ATCC BAA-1098) (B23)	PATHWAY: Carbohydrate degradation; pentose phosphate pathway; D-glyceraldehyde 3-phosphate and beta-D-fructose 6-phosphate from D-fructose 1,6-bisphosphate and D-xylulose 5-phosphate (non-oxidative stage); step 23; Complete proteome; Cytoplasm; Pentose shutt; Reference proteome; Schiff base; Transferrin		
RRR144633_TR22423_c0_g1_i1=2171	GSHB_SOLLC	Q10238_12532	74.21%ND	E0	Glutathione synthetase, chloroplast	PF03917_14GSHB	0.683	0.292	0.233	0.739	0.02	0.858	0	1.337	0.49	0.077	GSHB_SOLLC	Glutathione synthetase, chloroplast (GSH synthetase) (GSH-S) (Glutathione synthetase) (EC 6.3.2.3)	GSHB	Solanum lycopersicon (Tomato) (Lycopersicon esculentum)	ATP-binding; Chloroplast; Complete proteome; Glutathione biosynthesis; Ligase; Magnesium; Metal-binding; Nucleotide-binding; Plastid; Reference proteome; Transit peptide		
RRR144633_TR2443_c0_g1_i1=2147	SCIL15_ARATH	Q11680_2351232488	46.75%ND	E4e-124	Scarcerwlike protein 15	PF03514_11GRAS	0.1	0.443	0.088	1.537	0.027	1.025	0	1.293	1	0.251	SCIL15_ARATH	Scarcerwlike protein 15 (ASC15) (GRAS family protein 25) (AGRAS-25)	SCIL15 AG436710 CTA10 650	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Nucleus; Reference proteome; Transcription; Transcription regulation		
RRR144633_TR2142_c0_g1_i1=9830	BCS1B_DICDI	Q11680_2351232488	46.75%ND	E9e-31	Probable mitochondrial chaperone BCS1-B	PF00004_26AAAATPase	0.049	1.413	0.014	1.823	0.004	1.467	0	1.925	1	0.141	BCS1B_DICDI	Probable mitochondrial chaperone BCS1-B (BCS1-like protein 2)	bcsl1b_DDB_0291910	Arabidopsis thaliana (Mouse-ear cress)	ATP-binding; Chaperone; Complete proteome; Membrane; Mitochondrion; Mitochondrion inner membrane; Nucleotide-binding; Reference proteome; Transmembrane; Transmembrane helix		
RRR144633_TR17530_c0_g1_i1=1302	GSH2_SOLLC	Q10238_12532	74.76%ND	E0	Glutathione synthetase, chloroplast	PF03917_14GSH2	0.848	0.187	0.854	2.823	0.001	1.395	0	1.499	1	-0.555	GSH2_SOLLC	Glutathione synthetase, chloroplast (GSH synthetase) (GSH-S) (Glutathione synthetase) (EC 6.3.2.3)	gsh2	Solanum lycopersicon (Tomato) (Lycopersicon esculentum)	PATHWAY: Sulfur metabolism; glutathione biosynthesis; glutathione from L-cysteine and L-glutamate; step 22; ATP-binding; Chloroplast; Complete proteome; Glutathione biosynthesis; Ligase; Magnesium; Metal-binding; Nucleotide-binding; Plastid; Reference proteome; Transit peptide		
RRR144633_TR18582_c0_g1_i1=780	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
RRR144633_TR18582_c0_g1_i1=780	DGKS_ARATH	Q11680_2351232488	74.76%ND	E0	Diclyglycerol kinase 5	PF07878_21DGAK	0.132	1.349	0.093	2.499	0.014	3.479	0	4.404	1	-0.604	DGKS_ARATH	Diclyglycerol kinase 5 (ADGK5) (DAG kinase 5) (EC 2.7.1.10) (Dicyclidic kinase 5) (DGK 5)	DGKS AG22090 F5H14.13	Arabidopsis thaliana (Mouse-ear cress)	ATP-binding; Alternative splicing; Complete proteome; Kinase; Nucleotide-binding; Plant defense; Reference proteome; Stress response; Transferrin		
RRR144633_TR21893_c0_g1_i1=4925	LOX3_SOLTU	Q10238_12532	79.21%ND	E0	Linoleate 13B-epoxygenase 3-1, chloroplast	PF1246_Synthesase	0.112	1.127	0.051	2.761	0.017	1.682	0	2.071	0.01	7.338	1	0	LOX3_SOLTU	Linoleate 13B-epoxygenase 3-1, chloroplast (EC 1.13.11.2)	LOX3 1 LOX43	Solanum tuberosum (Potato)	PATHWAY: Lipid metabolism; oxylipin biosynthesis; (ECO:000255)PROSITEProfile:PRU0076)
RRR12236_TR1814_c0_g1_i1=1464	MTDH_FRANR	Q11182144_1_351	60.34%ND	E2e-159	Probable mannitol dehydrogenase	PF02218_14MTDH	0.009	0.607	0.349	3.195	0.006	0.668	0.001	0.728	0	-0.75	MTDH_FRANR	Probable mannitol dehydrogenase (EC 1.1.2.55) (NAD-dependent mannitol dehydrogenase)	CAD	Fraxinus saxatilis (Broomrape)	Complete proteome; Nucleus; Reference proteome; Transcription; Transcription regulation		
RRR12236_TR18031_c0_g1_i1=9919	GRXC9_ARATH	Q11182144_1_351	64.2%ND	E8e-40	Glutaredoxin-C9	PF02218_14GRXC9	0.381	2.682	0.003	3.114	0.004	2.169	0	3.170	1	-0.718	GRXC9_ARATH	Glutaredoxin-C9 (AGXC9) (Protein ROXY 19)	GRXC9 GRX480 ROXY19 AtG2849	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Cytoplasm; Disulfide bond; Electron transport; Nucleus; Redox-active center; Reference proteome; Transport		
RRR12236_TR18105_c0_g1_i1=650	SLK2_ARATH	Q11182144_1_351	76.1%ND	E7e-150	Probable transcriptional regulator SLK2	PF18035_13SLK2	0.002	1.843	0.007	1.561	0.002	1.473	0	1.585	1	0.070	SLK2_ARATH	Probable transcriptional regulator SLK2 (MSL2) (Protein SEU5-like 2)	SLK2 AG52690 MT010.12	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Developmental protein; Differentiation; Flowering; Nucleus; Reference proteome; Transcription; Transcription regulation		
RRR12236_TR2305_c0_g1_i1=1328	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
RRR12236_TR2028_c0_g1_i1=9878	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
RRR12236_TR11384_c1_g2_i1=1873	BGLU5_ARATH	Q11182144_1_351	60.34%ND	E2e-103	Beta-glucuronidase 45	PF02218_14BGLU5	0.917	0.002	1.008	1.338	0.006	2.385	0.001	2.275	0.001	2.675	0.262	0.64	BGLU5_ARATH	Beta-glucuronidase 45 (AGBGLU45) (EC 3.2.1.21)	BGLU5 AG16160 FK42 113M11.18	Arabidopsis thaliana (Mouse-ear cress)	Alternative splicing; Complete proteome; Disulfide bond; Glycoprotein; Glycosylase; Hydrolyase; Reference proteome; Signal
RRR12236_TR11402_c0_g1_i1=912	MES10_ARATH	Q11182144_1_351	70.9%ND	E1e-101	Methyltransferase 10	PF12146_Synthesase	0.245	1	2.689	1.029	0.014	2.487	0	5.425	1	-0.217	MES10_ARATH	Methyltransferase 10 (AMBU10) (EC 3.1.1.1)	AGS10 AG20460 T28E22_40	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Hydrolyase; Reference proteome		
RRR12236_TR11783_c0_g1_i1=1725	MOX_ORYSJ	Q10238_12532	78.84%ND	E4e-144	Probable inositol oxygenase	PF05153_12MOX	0.017	1.205	0.132	1.394	0.01	2.086	0	3.36	0.692	0.956	MOX_ORYSJ	Probable inositol oxygenase (EC 1.13.9.1) (Myo-inositol oxygenase) (Ml oxygenase)	OAG505100 L0C10_OAG36560 P046679.9 P053E12.30	Oryza sativa subsp. japonica (Rice)	PATHWAY: Pyridyl metabolism; myoinositol degradation into D-glucuronate; D-glucuronate from myoinositol; step 11; Complete proteome; Signal		
RRR12236_TR15254_c0_g1_i1=9980	APX3_ARATH	Q11182144_1_351	78.53%ND	E5e-74	L-ascorbate peroxidase 3, peroxisomal	PF04141_20LAPeroxidase	0.506	-0.199	0.046	-0.549	0.007	0.703	0.001	0.884	0.009	-0.594	APX3_ARATH	L-ascorbate peroxidase 3, peroxisomal (AAPX3) (EC 1.11.1.1)	APX3 APX APXIII AG43000 M63.145	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Nucleus; Reference proteome; Transferrin		
RRR12236_TR18164_c0_g1_i1=2058	ASK1_ARATH	Q11182144_1_351	74.2%ND	E0	Shyghrelated protein kinase alpha	PF02068_22Pkinase	0.865	0.211	0.021	1.595	0.001	2.344	0.001	2.739	0.401	-0.207	ASK1_ARATH	Shyghrelated protein kinase alpha (ASK alpha) (EC 2.7.1.1) (ASK alpha)	ASK1 AG42670 F2P16.21	Arabidopsis thaliana (Mouse-ear cress)	ATP-binding; Acetylcholine; Complete proteome; Kinase; Nucleotide-binding; Phosphoprotein; Reference proteome; Serine/threonine-protein kinase; Transferrin		
RRR12236_TR20247_c0_g1_i1=1207	F83Z7_ARATH	Q105_1405	36.9%ND	E9e-64	Fibox protein AG418380	PF05466_30Fibox	0.502	2.312	0.132	3.233	0.033	3.483	0	4.988	1	-0.11	F83Z7_ARATH	Fibox protein AG418380	AG418380 F2R12.40	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome		
RRR12236_TR22245_c0_g1_i1=2323	MLO6_ARATH	Q11838612_1_83	60.59%ND	E0	MLO-like protein 6	PF03694_12MLO	0.44	0.748	0.683	3.397	0.007	1.295	0	2.206	0.299	-1.75	MLO6_ARATH	MLO-like protein 6 (MLO6)	MLO6 AG16160 T28E24.9	Arabidopsis thaliana (Mouse-ear cress)	Alternative splicing; Calcium-binding; Complete proteome; Membrane; Pathogenesis-related protein; Plant defense; Reference proteome; Transmembrane; Transmembrane helix		
RRR12236_TR38321_c0_g1_i1=2182	PNM2_ARATH	Q11838612_1_83	63.88%ND	E2e-63	Chaperone protein dnaJ 72	PF02286_28DnaJ	0.409	0.431	0.376	0.473	0.002	1.027	0	1.51	1	0.132	PNM2_ARATH	Chaperone protein dnaJ 72 (ADJ27) (ADJ2)	ATJZ2 CTLCR1 AG241000 T3K9.2	Arabidopsis thaliana (Mouse-ear cress)	ATP-binding; Splicing; Complete proteome; Membrane; Reference proteome; Transmembrane; Transmembrane helix		
RRR12236_TR44501_c0_g2_i1=1233	MP3_PHAVU	Q10889_1233	57.55%ND	E0	Pectinesterase 3	PF04043_12PMEP	0.444	0.319	0.086	0.86	0.002	0.322	0	1.343	0.79	-0.1	MP3_PHAVU	Pectinesterase 3 (PE 3) (EC 3.1.1.11) (Pectin methyltransferase 3)	MP3	Phaseolus vulgaris (Kidney bean) (French bean)	PATHWAY: Glycan metabolism; pectin degradation; 2,4-dihydroxy-4-deoxy-D-glucosone from pectin; step 10; Alternative splicing; Chaperone; Complete proteome; Membrane; Reference proteome; Transmembrane; Transmembrane helix		
RRR12236_TR49759_c1_g1_i1=3521	LOX3_SOLTU	Q10238_12532	77.64%ND	E0	Linoleate 13B-epoxygenase 3-1, chloroplast	PF03055_16Lipoxygenase	1	0.176	0.254	4.593	0.009	3.945	0	4.699	1	0.608	LOX3_SOLTU	Linoleate 13B-epoxygenase 3-1, chloroplast (EC 1.13.11.2)	LOX3 1 LOX43	Solanum tuberosum (Potato)	PATHWAY: Lipid metabolism; oxylipin biosynthesis; (ECO:000255)PROSITEProfile:PRU0076)		
RRR12236_TR49386_c0_g2_i1=1508	FFP51_LUPAL	Q11508881_1_242	60.53%ND	E0	Farnesyl pyrophosphate synthase 1	PF03487_14FPPsynth	0.1	0.007	0.034	0.87	0.003	1.055	0	1.548	0.555	-0.271	FFP51_LUPAL	Farnesyl pyrophosphate synthase 1 (FPP synthase 1) (FPP 1) (EC 2.5.1.10) (DE:EE)farnesyl diphosphate synthase 1) (Geranyltransferase 1) (Geranyltransferase 1)	FFP51	Lupinus albus (White lupine) (Lupinus albus)	PATHWAY: Isoprenoid biosynthesis; farnesyl diphosphate biosynthesis; farnesyl diphosphate from geranyl diphosphate and isopentenyl diphosphate; step 11; PATHWAY: Isoprenoid biosynthesis; geranyl diphosphate from dimethylallyl diphosphate and isopentenyl diphosphate; step 11; Arabidopsis thaliana (Mouse-ear cress)		
RRR12236_TR50270_c1_g2_i1=1384	EXPA1_ARATH	Q11508881_1_242	84.4%ND	E1e-114	Exonuclease A1	PF03330_15EXPB	0.3	-0.329	0.024	-0.601	0.001	1.671	0	1.764	0.545	-0.4	EXPA1_ARATH	Exonuclease A1 (EXPA1) (EXA) (EXONUCLEASE A1) (EXONUCLEASE A1)	EXPA1 EXP1 ATG69530 F1D101.18	Arabidopsis thaliana (Mouse-ear cress)	Alternative splicing; Chaperone; Complete proteome; Membrane; Reference proteome; Transmembrane; Transmembrane helix		
RRR12236_TR60656_c0_g1_i1=1159	ERD2_PETHY	Q11508881_1_242	92.09%ND	E5e-133	ER luminal protein-retaining receptor	PF02810_15ER_Luminal	0.816	-0.111	0.001	-1.367	0.001	0.548	0	1.401	1	-0.563	ERD2_PETHY	ER luminal protein-retaining receptor (HDEL receptor) (PGP169)	ERD2	Nepenthes nepenthes (Pitcher plant)	Alternative splicing; Chaperone; Complete proteome; Membrane; Reference proteome; Transmembrane; Transmembrane helix		
RRR12236_TR62934_c0_g1_i1=1652	RPOA_ARATH	Q11508881_1_242	94.94%ND	E1e-46	DNA-directed RNA polymerase III, IV and V subunit 6A	PF01192_19RNA	0	-0.234	0.014	-1.012	1	0.618	0	1.919	1	-0.817	RPOA_ARATH						



































Accession	Gene	Protein	Function	EC	Subcellular	UniProt	PFAM	Value_Msh	logFC_Msh	PValue_Msh	logFC_Msh	PValue_MsDamaged24h	logFC_MsDamaged24h	PValue_MsIntact24h	logFC_MsIntact24h	PValue_Ms1wk	logFC_Ms1wk	Entry name	Protein names	Gene names	Organism	Pathway	Keywords
SRR342019_TR342019_g2_s12_jean2052	TPF_PEA	Q71-1291.H1-402	Trioze phosphate/phosphate translocator, chloroplast	E:0		PF03151.13^TPF^Trioze phosphate transporter family^127441E.4-8e-11	PF03151.13^TPF^Trioze phosphate transporter family^127441E.4-8e-11	0.731	-0.092	0.205	-0.349	0	-0.906	0.005	-0.613	0.012	0.618	TPF_PEA	Trioze phosphate/phosphate translocator, chloroplast (TPPT) (EC0) [936]		Plum salsum (Garden pea)		Chloroplast; Direct protein sequencing; Membrane; Plastid; Transil peptide; Transmembrane; Transmembrane helix; Transport
SRR342019_TR342019_g2_s10_j1_jean1554	GD11_ARATH	Q153.H11230.6	GD11-like protein 1, chloroplast	E:1e-63		PF0168.16^GD11^Uncharacterized protein family UPO1681^1E1e-30	PF0168.16^GD11^Uncharacterized protein family UPO1681^1E1e-30	0.738	-0.521	0.008	-1.573	0.001	-1.657	0.003	-1.397	1	0.28	GD11_ARATH	GD11-like protein 1, chloroplast	AtG16450.F22C2.19	Arabidopsis thaliana (Mouse-ear cress)		Chloroplast; Complete proteome; Membrane; Plastid; Reference proteome; Transil peptide; Transmembrane; Transmembrane helix
SRR342019_TR342019_g2_s2_j2_jean2572	COLM_ARATH	Q153.H11015.15	Purative zinc finger protein AtG68190	E:1e-28		PF00464.16^SMT^Serine hydroxymethyltransferase^1362E.4e-105	PF00464.16^SMT^Serine hydroxymethyltransferase^1362E.4e-105	0.747	0.04	0.118	-1.719	0.001	-4.326	0.016	-2.769	0.282	1.129	COLM_ARATH	Purative zinc finger protein AtG68190	AtG168190.T22E19.18	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Metal-binding; Nucleus; Reference proteome; Repeat; Zinc; Zinc-finger
SRR342022_TR42022_g0_s2_j2_jean182	GLYM_SOLTU	Q153.H13616.1	Serine hydroxymethyltransferase, mitochondrial	E:0		PF00464.16^SMT^Serine hydroxymethyltransferase^1362E.4e-105	PF00464.16^SMT^Serine hydroxymethyltransferase^1362E.4e-105	0.747	0.04	0.118	-1.719	0.001	-4.326	0.016	-2.769	0.282	1.129	GLYM_SOLTU	Serine hydroxymethyltransferase, mitochondrial (SMT) (EC 2.1.2.1) (Cytidine hydroxymethyltransferase) (Serine methylase)	AtG168190.T22E19.18	Solanum tuberosum (Potato)	PATHWAY: One-carbon metabolism; tetrahydrofolate interconversion.	Complete proteome; Metal-binding; Nucleus; Reference proteome; Repeat; Zinc; Zinc-finger
SRR342022_TR42022_g0_s2_j2_jean2500	PRR68_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342022_TR19222_g1_s2_jean2205	AFS2_ARATH	Q153.H12414.H1-475	ATP sulfurylase 2	E:0		PF04306.3^AFS^ATP sulfurylase domain^9331E.3e-36	PF04306.3^AFS^ATP sulfurylase domain^9331E.3e-36	0.826	-0.499	0.739	-0.266	0	-1.202	0.003	-0.755	0.629	-0.19	AFS2_ARATH	ATP sulfurylase 2 (EC 2.7.2.4)	AtG15920.F6F.2	Arabidopsis thaliana (Mouse-ear cress)	PATHWAY: Sulfur metabolism; hydrogen sulfide biosynthesis; sulfate from sulfate; step 1/3.	ATP-binding; Alternative initiation; Chloroplast; Complete proteome; Cytoplasm; Nucleotide-binding; Nucleosyltransferase; Plastid; Reference proteome; Transmembrane; Transil peptide
SRR342022_TR19222_g2_s2_jean2432	LUT1_ARATH	Q153.H133639.9	Carotene epsilon-monooxygenase, chloroplast	E:0		PF00606.19^450^Cytochrome P450^99021E.8e-81	PF00606.19^450^Cytochrome P450^99021E.8e-81	1	-0.01	0.12	-0.662	0.001	-1.19	0.784	-0.148	LUT1_ARATH	Carotene epsilon-monooxygenase, chloroplast (EC 1.14.99.45) (Cytochrome P450 9C1) (Protein LUTEIN DEHYDROGENASE 1)	AtG15310.F4D2.60	Arabidopsis thaliana (Mouse-ear cress)		Chloroplast; Direct protein sequencing; Membrane; Plastid; Reference proteome; Transil peptide; Transmembrane; Transmembrane helix; Transport		
SRR342022_TR16045_g2_s2_jean1592	AL3F1_ARATH	Q153.H14141.H1-484	Aldehyde dehydrogenase family 3 member F1	E:2e-151		PF00171.19^Aldeh^Aldehyde dehydrogenase family^18.357E.2e-63	PF00171.19^Aldeh^Aldehyde dehydrogenase family^18.357E.2e-63	0.29	-0.421	0.034	-1.014	0	-2.065	0.084	-0.988	0.121	0.804	AL3F1_ARATH	Aldehyde dehydrogenase family 3 member F1 (EC 1.2.1.3)	AtG15410.F4G2.60	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; NAD; Oxidoreductase; Reference proteome	
SRR342022_TR17158_g1_s13_j1_jean1590	GPPL2_ARATH	Q153.H14141.H1-484	Halocid dehydrogenase-like hydrolase domain-containing protein AdG48420	E:1e-114		PF00171.19^Aldeh^Aldehyde dehydrogenase family^18.357E.2e-63	PF00171.19^Aldeh^Aldehyde dehydrogenase family^18.357E.2e-63	0.527	-0.182	0.484	-1.019	0	-0.899	0.015	-0.986	0.914	0.041	GPPL2_ARATH	Halocid dehydrogenase-like hydrolase domain-containing protein AdG48420 (EC 3.1.3.1)	AtG15420.T2H11.60	Arabidopsis thaliana (Mouse-ear cress)	3D structure; Chloroplast; Complete proteome; Hydrolase; Magnesium; Metal-binding; Plastid; Reference proteome; Transmembrane; Transil peptide	
SRR342023_TR15684_g1_s2_j7_jean777	NA	NA	NA	NA	NA	NA	NA	0.258	1.033	0.452	-0.583	0	-1.407	0.025	-0.801	0.166	-0.772						
SRR342023_TR17648_g3_s1_j3_jean79	RTNLN_ARATH	Q153.H12414.H1-475	Reticulon-like protein B1	E:1e-49		PF02453.14^Reticulon^Reticulon^70152E.2e-25	PF02453.14^Reticulon^Reticulon^70152E.2e-25	1	0	0	0	0	-1.727	0	0	0	0	RTNLN_ARATH	Reticulon-like protein B1 (ARTNLB1) (VHR-interacting protein 1)	R17616.10	Arabidopsis thaliana (Mouse-ear cress)		Acetylation; Cell membrane; Complete proteome; Endoplasmic reticulum; Membrane; Reference proteome; Transmembrane; Transmembrane helix
SRR342023_TR11601_g0_s1_j1_jean87	NA	NA	NA	NA	NA	NA	NA	0.76	0.656	0.01	-0.021	0	-0.662	0.006	-0.638	0.178	0.31						
SRR342023_TR11601_g0_s1_j1_jean87	NA	NA	NA	NA	NA	NA	NA	0.76	0.656	0.01	-0.021	0	-0.662	0.006	-0.638	0.178	0.31						
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	Pentatricopeptide repeat-containing protein AtG131920	E:0		PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	PF03041.3^PRR^Pentatricopeptide repeat family^95143E.4-1e-11	0.16	-1.32	0.129	-4.898	0.001	-1.333	0.005	-1.081	0.608	0.229	PRR68_ARATH	Pentatricopeptide repeat-containing protein AtG131920	PCPM6.H11AtG131920.F30M.8	Arabidopsis thaliana (Mouse-ear cress)		Complete proteome; Reference proteome; Repeat
SRR342023_TR16855_g0_s1_j1_jean89	PKM8_ARATH	Q153.H114679.9	P																				



Accession	Gene	Protein	EC	Enzyme	Substrate	Product	Pathway	Reference	Keywords														
SRR46572_TR19050_c0_g2_l1_len1105	CBS_ARATH	Q4613-H39245	90.85%	E4-e92	Chlorophyll a-b binding protein CP26, chloroplast			0.091	-0.413	0.002	-0.798	0	-1.023	0.001	-0.75	0.861	0.068 CBS_ARATH	Chlorophyll a-b binding protein CP26, chloroplast (LHCBS) (LHCIIc) (Light-harvesting complex II protein 5)	LHCBS Akg10340 F24G24.140	Arabidopsis thaliana (Mouse-ear cress)	Chlorophyll; Chloroplast; Chromophore; Complete proteome; Magnesium; Membrane; Metal-binding; Phosphoprotein; Phosphotransferase; Transmembrane helix		
SRR46572_TR19460_c0_g1_l1_len711	RBS_MALSP	Q462229-H106	87.18%	E1-e44	Ribulose biphosphate carboxylase small chain, chloroplast			0.855	-0.072	0.000	-1.272	0	-2.239	0	-1.748	0.663	0.748	RBS_MALSP	Ribulose biphosphate carboxylase small chain, chloroplast (RuBisCO small subunit) (EC 4.1.1.39)	RBCS	Malus sp. (Crab apple)	Chlorophyll; Chloroplast; Chromophore; Complete proteome; Magnesium; Membrane; Metal-binding; Phosphoprotein; Phosphotransferase; Transmembrane helix; Cation cycle; Carbon dioxide fixation; Chloroplast; Lysine; Monoxygenase; Oxidoreductase; Photosynthesis; Photosynthesis; Plastid; Transil peptide	
SRR46572_TR27890_c0_g2_l1_len1389	BCAI_ARATH	Q227102-D3103	76.45%	E3a-157	Beta carbonic anhydrase 1, chloroplast			0.381	2.455	0.798	0.431	0	0.209	1	0.018	0.641	0.018	BCAI_ARATH	Beta carbonic anhydrase 1, chloroplast (BCA1) (ABETACA1) (EC 4.2.1.1) (Beta carbonate dehydratase 1) (Protein SALICYLIC ACID-BINDING PROTEIN 3) (ASBP3)	BCAI CA1 SBP3 Akg1500 F4P13.3	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46572_TR29313_c0_g2_l1_len2371	RUS5_ARATH	Q326-1140-H61	61.71%	E7-e82	Protein rot UVB sensitive 5 (EC:0003033) (PubMed:1951579)			0.443	-0.245	0.022	-1.387	0	0.258	0	0.208	0.892	-0.077	RUS5_ARATH	Protein rot UVB sensitive 5	RUS5 Akg01510 F7A7.20	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46572_TR29450_c0_g1_l1_len351	NA	NA	NA	NA	NA	NA	NA	1	0.012	0.002	-1.043	0	-1.34	0	-1.024	0.535	-0.208	NA	NA	NA	NA	Complete proteome; Reference proteome	
SRR46572_TR34084_c2_g1_l1_len1480	ALFC2_ARATH	Q170-1234-H12	86.27%	E0	Probable fructose-bisphosphate aldolase 2, chloroplast			1	0.04	0.009	1.072	0	-0.928	0	-0.981	0.884	-0.014	ALFC2_ARATH	Probable fructose-bisphosphate aldolase 2, chloroplast (EC 4.1.2.13)	FBAA Akg036970 F19H22.70	Arabidopsis thaliana (Mouse-ear cress)	PATHWAY: Carbohydrate degradation; glycolysis; D-glyceraldehyde 3-phosphate and glycine phosphate from D-glucose; step 44.	
SRR46598_TR3897_c1_g3_l2_len581	NA	NA	NA	NA	NA	NA	NA	1	1.121	0.444	1.121	0	-0.864	0	-0.664	1	-0.655	NA	NA	NA	NA	Alternative splicing; Chloroplast; Complete proteome; Glycolysis; Lysine; Methylation; Phosphoprotein; Plastid; Reference proteome; Schiff base; Transil peptide	
SRR46598_TR10572_c0_g2_l1_len75	ER016_ARATH	Q42738-H69	80.77%	E3a-68	Squalene epoxidase 3			0.377	-0.561	1	-3.4	0	-1.222	0.001	-1.95	1	0.58	ER016_ARATH	Squalene epoxidase 3 (ASQE3) (EC 1.14.13.132)	SOEA Akg37760 TB3819.4	Arabidopsis thaliana (Mouse-ear cress)	PATHWAY: Terpene metabolism; lanosterol biosynthesis; lanosterol from lanosterol diphosphate; step 23.	
SRR46598_TR19878_c0_g2_l1_len1567	PSPB_SPIOL	Q366-181-H1	76.36%	E7a-142	Oxygen-evolving enhancer protein 2, chloroplast			0.514	-1.055	0.492	-1.43	0	-0.889	0	-0.767	0.003	-0.144	PSPB_SPIOL	Oxygen-evolving enhancer protein 2, chloroplast (OEE2) (23 kDa subunit of oxygen evolving system of photosystem II) (23 kDa thylakoid membrane protein) (EC 8.3 kDa subunit)	PSPB	Spinacia oleracea (Spinach)	Complete proteome; FAD; Flavoprotein; Membrane; NADP; Oxidoreductase; Reference proteome; Transmembrane; Transmembrane helix	
SRR46604_TR2655_c0_g1_l1_len320	Q1688	889.11754-12	58.03%	E3a-117	Rho guanine nucleotide exchange factor 8			1	0	0	-1.128	0	-2.463	0	-2.657	1	0.931	ROGF8_ARATH	Rho guanine nucleotide exchange factor 8 (AROGFER) (Rho of plants guanine nucleotide exchange factor 8)	ROGF8 Akg24620 M0B21.21	Arabidopsis thaliana (Mouse-ear cress)	3D-structure; Cell membrane; Complete proteome; Guanine-nucleotide releasing factor; Membrane; Reference proteome	
SRR46604_TR2655_c0_g1_l1_len320	ROGF8_ARATH	Q1688	889.11754-12	58.03%	E3a-117	Rho guanine nucleotide exchange factor 8			1	0	-1.128	0	-2.463	0	-2.657	1	0.931	ROGF8_ARATH	Rho guanine nucleotide exchange factor 8 (AROGFER) (Rho of plants guanine nucleotide exchange factor 8)	ROGF8 Akg24620 M0B21.21	Arabidopsis thaliana (Mouse-ear cress)	3D-structure; Cell membrane; Complete proteome; Guanine-nucleotide releasing factor; Membrane; Reference proteome	
SRR46604_TR2655_c0_g1_l1_len320	CP9418_ARATH	Q175213-H11	376	E0	Chloroplast stem-loop binding protein of 41 kDa, chloroplast			0.003	0.541	0.174	-0.023	0	-1.053	0	-0.838	0.014	0.683	CP9418_ARATH	Chloroplast stem-loop binding protein of 41 kDa, chloroplast (Chloroplast) (CP9418) (Helicoglycan-interacting protein 1.3) (Protein CHLOROPLAST RNA BINDING) (Protein Gsp5)	CP9418 CRB HP1.3 Akg193940 T31J12.9	Arabidopsis thaliana (Mouse-ear cress)	Carbohydrate metabolism; Chloroplast; Complete proteome; Cytoplasm; Phosphoprotein; Plastid; Polysaccharide degradation; RNA-binding; Reference proteome; Transil peptide; rRNA processing; rRNA-binding	
SRR46604_TR2655_c0_g1_l1_len320	CP9418_ARATH	Q175213-H11	376	E0	Chloroplast stem-loop binding protein of 41 kDa, chloroplast			0.003	0.541	0.174	-0.023	0	-1.053	0	-0.838	0.014	0.683	CP9418_ARATH	Chloroplast stem-loop binding protein of 41 kDa, chloroplast (Chloroplast) (CP9418) (Helicoglycan-interacting protein 1.3) (Protein CHLOROPLAST RNA BINDING) (Protein Gsp5)	CP9418 CRB HP1.3 Akg193940 T31J12.9	Arabidopsis thaliana (Mouse-ear cress)	Carbohydrate metabolism; Chloroplast; Complete proteome; Cytoplasm; Phosphoprotein; Plastid; Polysaccharide degradation; RNA-binding; Reference proteome; Transil peptide; rRNA processing; rRNA-binding	
SRR46604_TR18143_c0_g1_l1_len3370	NA	NA	NA	NA	NA	NA	NA	0	0.502	3.976	0.189	1.771	0	-0.959	0.305	-0.6	-	NA	NA	NA	NA	Complete proteome; Glycolysis/transferrase; Reference proteome; Transferrase	
SRR46604_TR20440_c0_g2_l1_len2030	USM1_ARATH	Q488-1855-H9	47.55%	E3a-150	UDP-glucosyltransferase 83A1			0	-1.137	1	0.163	0	-1.768	0.76	-1.927	0	0.555	USM1_ARATH	UDP-glucosyltransferase 83A1 (EC 2.4.1.1)	USM1 Akg02100 F109.11	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Glycolysis/transferrase; Reference proteome; Transferrase	
SRR46604_TR21542_c0_g2_l1_len1070	CURT1A_ARATH	Q299-7634-H3	66.45%	E1a-58	Protein CURVATURE THYLAKOID 1A, chloroplast			0.395	-0.2	0.089	-0.386	0	-1.157	0	-0.978	0.988	0.004	CURT1A_ARATH	Protein CURVATURE THYLAKOID 1A, chloroplast	CURT1A Akg01150 A1J00200-18 F2N11.18	Arabidopsis thaliana (Mouse-ear cress)	Acetylation; Alternative splicing; Chloroplast; Coiled coil; Complete proteome; Membrane; Plastid; Reference proteome; Thylakoid; Transil peptide; Transmembrane helix	
SRR46604_TR22841_c0_g3_l2_len2346	NA	NA	NA	NA	NA	NA	NA	1	-0.135	0.461	-1.153	0	-2.147	0	-0.056	-	-	NA	NA	NA	NA	Complete proteome; Reference proteome	
SRR46604_TR23835_c0_g1_l1_len1385	NA	NA	NA	NA	NA	NA	NA	0.395	-0.617	0.035	-1.992	0.001	-0.924	0	-1.11	0.043	0.954	-	-	-	-	-	Chloroplast; Direct protein sequencing; Membrane; Nucleus; Transil peptide; Transmembrane; Transmembrane helix; Transport
SRR46604_TR32441_c0_g1_l1_len2580	TPT_SPIOL	Q2250	79.59%	E0	Triose phosphate isomerase translocator, chloroplast			0.254	4.468	0.009	-0.643	0	-2.305	1	-0.765	1	0	TPT_SPIOL	Triose phosphate isomerase translocator, chloroplast (TPT) (E29) (g38)	SPIN Akg12222_ARATH	Spinacia oleracea (Spinach)	Chloroplast; Direct protein sequencing; Membrane; Nucleus; Transil peptide; Transmembrane; Transmembrane helix; Transport	
SRR46604_TR32441_c0_g1_l1_len2580	GAT2_ARATH	Q22741-H10	40.30%	E3a-21	Putative GATA transcription factor 22			0.447	2.993	0.071	-0.923	0	-3.156	0.005	-1.078	0.422	0.848	GAT2_ARATH	Putative GATA transcription factor 22	GAT2 Akg21222_ARATH	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; DNA-binding; Metal-binding; Nucleus; Reference proteome; Transcription; Transcription regulation; Zinc; Zinc-finger	
SRR46604_TR34940_c0_g3_l1_len1403	PSBO_SOLI	Q212-1210-H1	88.59%	E0	Oxygen-evolving enhancer protein 1, chloroplast			0.308	-0.216	0.003	-0.625	0	-0.996	0.001	-0.704	0.037	0.436	PSBO_SOLI	Oxygen-evolving enhancer protein 1, chloroplast (OEE1) (33 kDa subunit of oxygen evolving system of photosystem II) (33 kDa thylakoid membrane protein) (EC 8.3 kDa subunit)	PSBO	Solanum tuberosum (Potato)	Chloroplast; Complete proteome; Magnesium; Membrane; Photosynthesis; Photosystem II; Plastid; Reference proteome; Thylakoid; Transil peptide	
SRR46604_TR38081_c0_g3_l1_len1533	ALFC_ORYSJ	Q202-1292-H50	91.16%	E0	Fructose-bisphosphate aldolase, chloroplast			1	0.542	0.254	-4.608	0	-1.582	0	-2.608	1	0.618	ALFC_ORYSJ	Fructose-bisphosphate aldolase (ALDP) (EC 4.1.2.13)	Oa1Jg171300 LOC_Oa115g7020 Oa1J_33121	Oryza sativa subsp. japonica (Rice)	Chloroplast; Complete proteome; Direct protein sequencing; Glycolysis; Lysine; Reference proteome; Schiff base; Transil peptide	
SRR46604_TR38541_c1_g1_l1_len1874	CBS_ARATH	Q1553-H195	94.12%	E2a-29	Chlorophyll a-b binding protein CP26, chloroplast			1	0.189	0.017	-2.249	0	-2.064	0	-2.478	1	0.09	CBS_ARATH	Chlorophyll a-b binding protein CP26, chloroplast (LHCBS) (LHCIIc) (Light-harvesting complex II protein 5)	LHCBS Akg10340 F24G24.140	Arabidopsis thaliana (Mouse-ear cress)	Chlorophyll; Chloroplast; Chromophore; Complete proteome; Magnesium; Membrane; Metal-binding; Phosphoprotein; Phosphotransferase; Transmembrane helix; Cation cycle; Carbon dioxide fixation; Chloroplast; Lysine; Monoxygenase; Oxidoreductase; Photosynthesis; Photosynthesis; Plastid; Transil peptide	
SRR46604_TR38541_c1_g1_l1_len1874	ARF_GNOM_ARATH	Q1242	49.23%	E5a-23	ARF guanine nucleotide exchange factor GNOM			1	0.041	0.019	-0.608	0	-1.628	0	-1.912	0.848	0.142	GNOM_ARATH	ARF guanine nucleotide exchange factor GNOM (GNOM) (Protein EMBRYO DEFECTIVE 30) (Protein MIZUKIUSSE2) (Protein VASCULAR NETWORK 7)	GNOM EMB30 GBF3 MZK1 VANT A1513980 F16A14.20 F7A7.9	Arabidopsis thaliana (Mouse-ear cress)	Cell adhesion; Cell membrane; Complete proteome; Cytoplasm; ER-Golgi transport; Endosome; Endosome; Guanine-nucleotide releasing factor; Membrane; Polyomorphism; Protein transport; Reference proteome; Transport	
SRR46604_TR38541_c1_g1_l1_len1874	IAA17_ARATH	Q24430-H3	51.15%	E1a-59	Auxin-responsive protein IAA17			1	0.038	0	7.058	0	-7.593	0	-0.345	0.786	0.1	IAA17_ARATH	Auxin-responsive protein IAA17 (AuxR response 3) (Indoleacetic acid-induced protein 17)	IAA17 Akg14914250 F19P19.31	Arabidopsis thaliana (Mouse-ear cress)	Chloroplast; Complete proteome; Reference proteome; Repressor; Transcription; Transcription regulation	
SRR46604_TR10396_c0_g1_l1_len2966	FRD7_ARATH	Q2407281-H32	61.24%	E0	Ferric reduction oxidase 7, chloroplast			1	0.016	0.043	-0.95	0	-1.039	0	-1.026	0.24	0.528	FRD7_ARATH	Ferric reduction oxidase 7, chloroplast (AFRD7) (EC 1.16.1.7) (Ferric-chelate reductase 7)	FRD7 Akg49740 K20.10	Arabidopsis thaliana (Mouse-ear cress)	Chloroplast; Complete proteome; Electron transport; FAD; Flavoprotein; Ion transport; Iron; Membrane; Metal-binding; NAD; Oxidoreductase; Plastid; Reference proteome; Transil peptide; Transmembrane; Transmembrane helix; Transport	
SRR46604_TR11407_c0_g1_l1_len1223	USM1_ARATH	Q3902-H185	48.03%	E3a-69	UDP-glucosyltransferase 83A1			1	0.6	1	-1.14	0	-2.972	0	-1.354	1	2.791	USM1_ARATH	UDP-glucosyltransferase 83A1 (EC 2.4.1.1)	USM1 Akg02100 F109.11	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Glycosyltransferase; Reference proteome; Transferrase	
SRR46604_TR12359_c0_g1_l1_len2882	LOB3_ARATH	Q30146-H1	82.14%	E3a-56	LOB domain-containing protein 39			0.298	-0.878	0.693	-0.364	0	-2.292	0.419	-0.292	0.419	0.839	LOB3_ARATH	LOB domain-containing protein 39 (ASYMMETRIC LEAVES 2-like protein 41) (AS2-like protein 41)	LOB3 AS141 Akg17540 F19F18.30	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73	LOB domain-containing protein 37			0.855	-0.145	0.023	1.068	0	-1.492	0	-1.838	1	0.241	LOB3_ARATH	LOB domain-containing protein 37 (ASYMMETRIC LEAVES 2-like protein 39) (AS2-like protein 39)	LOB3 AS139 Akg17420 K8K11.6	Arabidopsis thaliana (Mouse-ear cress)	Complete proteome; Reference proteome	
SRR46604_TR13461_c0_g1_l1_len1371	LOB3_ARATH	Q125-472-H1	56.50%	E3a-73																			



	3	3.02 Elongation factor
Mstac24h	4	3.02 Microspermatid
	4	4.73 Thioredoxin
	3	4.70 One-carbon metabolism
	36	10.36 Plastid
	36	11.79 Transil peptidase
	36	15.75 Chloroplast
	10	1.00 Thylakoid
	6	4.70 Microspermatid
	3	7.71 Photosystem I
	3	4.36 Chloroplast biogenesis
	3	4.06 Nucleosome biogenesis
	27	15.27 Ribonucleoprotein
	21	15.45 Ribosome protein
	6	4.02 DNA replication
	6	4.02 RNA binding
	4	5.35 Nucleosome core
	199	23.84 Plastid
	107	23.01 Chloroplast
	107	15.79 Transil peptidase
	35	4.83 Disulfide bond
	31	12.27 Thylakoid
	25	4.60 Ribonucleoprotein
	21	5.53 Ribosomal protein
	12	5.15 Photosynthesis
	10	4.85 RNA-binding
	8	4.85 Photosystem I
	7	3.85 Chromophore
	7	4.83 Photosystem I
	5	3.33 Chlorophyll
	14	3.58 Ribonucleoprotein
	5	3.38 Glyoxysome
	4	3.27 Proteasome
	3	3.16 Aspartyl protease
	3	3.84 Threonine protease
	42	14.07 Chloroplast
	42	15.83 Plastid
	42	10.83 Transil peptidase
	21	4.30 Oxidoreductase
	13	1.51 Thylakoid
	12	3.07 Iron
	12	11.41 Photosynthesis
	9	3.84 Lyase
	7	3.47 Electron transport
	6	6.54 Photosystem I
	5	6.26 Chlorophyll
	5	5.16 Chromophore
	5	5.93 Photosystem I
	3	4.13 Calvin cycle
	3	5.71 Carbon dioxide fixation
	3	4.79 Schiff base

## Supplemental Table S4

Most represented PFAM domains. Uniprot keywords in transcripts modulated upon challenge with *M. sexta*. Enrichment tests were performed by comparison with a hypergeometric distribution.

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## upregulated

	Counts	-log10pvalue	PFAM domain
Core	145		No domain
	32	7.08	PF00067.19 p450_Cytochrome_P450
	19	3.58	PF12874.4 Adhydrylase_6/Alphabeta_hydrolase_family
	18	2.13	PF00361.17 Adhydrylase_1/Alphabeta_hydrolase_fold
	18	1.37	PF01535.17 PPR_PRR_repeat
	17	0.60	PF04071.16 Bel_v_1/Pathogenesis-related_protein_Bel_v_family
	15	0.82	PF01554.15 MaltE_MaltE
	15	0.45	PF03171.17 ZOG_FeH_Oxy_ZOG_Fe(j)/oxygenase_superfamily
	15	-0.13	PF12146.5 Hydrolase_3/Serine_aminopeptidase
	14	-0.35	PF00191.17 Annexin_Annexin
	14		No domain
	14	0.72	PF01535.17 PPR_PRR_repeat
	10	0.28	PF00022.22 Kinase/Protein_kinase_domain
	7	0.05	PF07714.14 Kinase_Tyr/Protein_tyrosine_kinase
	7	0.17	PF00405.25 WD40_WD_domain
4	0.21	PF01164_27 CC_C2_domain	
3	0.19	PF13041.3 PPR_2_PPR_repeat_family	
Msdamaged24h;Mstac24h	61	0.04	No domain
	7	3.63	PF00295.17 MIP/MIP-like_protein
	6	1.36	PF04071.16 Bel_v_1/Pathogenesis-related_protein_Bel_v_family
	6	1.11	PF00393.24 ABC_cassette/ABC_transporter
	6	0.83	PF00020.20 Zinc_finger/Zipper/zipper_protease
	6	0.42	PF00067.19 p450_Cytochrome_P450
	6	0.38	PF00112.20 Phylloclase_C1/Phyloclase-related_proteinase
5	3.22	PF00241.19 Trp_tRNA_acyl/Trp_tRNA_acyl/Proteinase_inhibitor/serp/serp/TF_family	
5	0.08	PF00092.17 EukA/EukA-like_transporter_family	
5	0.38	PF00095.13 CC_C2_domain	
Mstac	25	-0.45	No domain
	105		WD No domain
	24	7.81	PF00240.9 ADH_N/Alcohol_dehydrogenase_GroES-like_domain
	23	1.57	PF00240.20 Ubiquitin_Ubiquitin_family
	22	0.78	PF11976.5 Rad60-SLD/Ubiquitin-2-like/Rad60-SUMO-like
	21	0.48	PF00107.23 ADH_zinc_N/Zinc-binding_dehydrogenase
	19	0.10	PF00067.19 p450_Cytochrome_P450
	19	0.07	PF14560.3 Ubiquitin_2/Ubiquitin-like_domain
	17	0.01	PF13023.3 EF-hand_5/EF-hand
	16	-0.35	PF00036.29 EF-hand_1/EF-hand
14	-0.46	PF13813.3 Rad60-SLD_2/Ubiquitin-2-like/Rad60-SUMO-like	
Mstak	67	4.50	No domain
	15	2.20	PF01535.17 PPR_PRR_repeat
	7	1.77	PF00096.20 rCCHC/Zinc_knuckle
	7	1.10	PF07021.01 RV_T_2/Reverse_transcriptase_(RNA-dependent_DNA_polymerase)
	6	1.01	PF13876.3 gag_p16-integrase_GAG-integrase_domain
	5	0.73	PF00009.24 GTP_EFTU/Elongation_factor_Tu_GTP_binding_domain
5	0.70	PF00067.19 p450_Cytochrome_P450	
5	0.48	PF00076.19 RRM_1/RNA_recognition_motif_(a.k.a._RRM)	
5	0.09	PF00091.22 Tubulin/Tubulin/Plac2_family	
5	-0.13	PF00578.18 AhpC-TSA/AhpC/TSA_family	
Msdamaged24h;Mstac24h	79	2.34	No domain
	7	0.48	PF04071.16 Bel_v_1/Pathogenesis-related_protein_Bel_v_family
	6	2.14	PF00067.19 p450_Cytochrome_P450
	5	1.71	PF00116.16 PRP20_Hsp20alpha_crystallin_family
	5	1.30	PF00064.18 FTIC/POI_family
5	0.74	PF01554.15 MaltE/MaltE	
5	0.71	PF13855.3 LRR_8/Leucine_rich_repeat	

## downregulated

	Counts	-log10pvalue	PFAM domain
Core	96	1.71	No domain
	24	1.04	PF00504.18 Chloroa_b-hist/Chlorophyll_A-B_binding_protein
	19	0.07	PF00125.21 Histone_Core_histone_H2AH2BH3H4
	13	0.31	PF01535.17 PPR_PRR_repeat
	10	0.45	PF13041.3 PPR_2_PPR_repeat_family
	9	0.20	PF12854.4 PPR_1_PPR_repeat
	8	0.13	PF12112.3 PPR_3/Fluorenylacetamide_repeat_domain
	6	0.44	PF00560.30 LRR_1/Leucine_Rich_Repeat
	6	0.04	PF02969.14 YAF/TATA_box-binding_protein_associated_factor_(TAF)
	6	-0.19	PF15511.3 CENP-T_C/Centromere_kinetochore_component_CENP-T_histone_fold
	54	-1.47	No domain
5	1.03	PF00067.19 p450_Cytochrome_P450	
Msdamaged24h	20	1.08	No domain
	7	0.48	PF01535.17 PPR_PRR_repeat
	6	0.02	PF00105.24 Mta_csr/Mitochondrial_carrier_protein
	5	0.05	PF13840.3 WCC1_2/Regulator_of_chromatin_condensation_(WCC1)_repeat
Mstac	36	6.79	No domain
	6	2.41	PF00076.19 RRM_1/RNA_recognition_motif_(a.k.a._RRM)
	7	0.93	PF00009.24 GTP_EFTU/Elongation_factor_Tu_GTP_binding_domain
	7	0.45	PF01246.23 Ribosomal_L7Ae/Ribosomal_protein_L7Ae/L30a/S12a/Gad445_family
	6	0.41	PF00125.21 Histone_Core_histone_H2AH2BH3H4
	5	0.27	PF00429.16 Ribosomal_60s/60s/Arctic_ribosomal_protein
Mstac	204	0.01	No domain
	24	2.22	PF01535.17 PPR_PRR_repeat
	22	0.71	PF13041.3 PPR_2_PPR_repeat_family
	22	0.32	PF00560.30 LRR_1/Leucine_Rich_Repeat
	20	0.20	PF13012.3 PPR_3/Fluorenylacetamide_repeat_domain
	17	0.01	PF13855.3 LRR_8/Leucine_rich_repeat
	13	0.39	PF13854.4 PPR_1_PPR_repeat
	12	0.26	PF07714.14 Kinase_Tyr/Protein_tyrosine_kinase
	10	0.00	PF00069.22 Kinase/Protein_kinase_domain
	10	-0.28	PF13516.3 LRR_6/Leucine_Rich_repeat

	92	0.53 No domain
	5	6.27PF05025.18 Arf ADP-ribosylation factor family
	5	2.34PF05071.19 Ras Ras family
	5	1.56PF05405.29 ND40 WD domain
	5	1.18PF05505.16 HMG_box HMG (high mobility group) box
Ma1ak	5	0.68PF03469.19 Flacollin Flacollin domain
	5	0.83PF08477.10 Rec Rec of Complex
	5	0.43PF09011.7 HMG_box_2 HMG-box domain
	5	0.05PF13417.3 GST_N_3 Glutathione S-transferase
	44	1.81 No domain
	10	1.21PF05405.29 ND40 WD domain
MsDamaged24h.MsInacc24h	5	0.98PF05067.19 p450 Cytochrome P450
	5	0.60PF05201.15 UDPGT UDP-glucuronosyl and UDP-glucosyl transferase
	5	0.41PF05504.18 Chlorox_b-bind Chlorophyll A-B binding protein

## Supplemental Table S5

Primers used in this study.

qPCR Target	Primer Name	Sequence (5'-3')
SLS1	150116-SLS1-F	GGTCCATGTGAGTAAACTCCAGTA
	150116-SLS1-R	AACAAGGATCCCATGAAGTTGA
STR	qSTR-for	CATAGCTCTGTGGGTATATTAGTGT
	qSTR-rev	ACCTTCAAAAAGCCATAGAATTTGCA
SGD	qSGD-for	CTTCCACAACCTCGAATGGAA
	qSGD-rev	CTTCTTGACTAACTCAACTAGT
40S ribosomal protein 9	Rps9-up	TTACAAGTCCTTCGGTGGT
	Rps9-down	TGCTTATTCTTCATCCTCTTCATC
160MT	qDL-160MT-F	GTGGATTCTCCATGACTGGAACGA
	qDL-160MT-R	GATTTATCACCTTCCACCCTTCGC
16T30	CYP6_141119_a_F	ACCCCTCCTGCTCATTGTTG
	CYP6_141119_a_R	GCCCAGACATTGATGAACGC
ORCA3	qORCA3bis-for	TGTCAGGAGGTTCTGTGTGGGA
	qORCA3bis-rev	CGCATATTAAACGGGCTGGATCA
HDS	qHDS-up	GTCCCTTACTGAACCTCCAGAG
	qHDS-down	AATCACCTGTCTGGCTGG
G10H	qG10H-up	ATCAGTTCAAAAGCCTCC
	qG10H-down	TTCTCCATCGTGAGGTACC