

Supplementary Table S1. Assembled clusters that contain more than four ESTs

Gene annotation	Reference organism	GI number	E-value	ESTs
<i>β-glucosidase 23</i>	<i>A. thaliana</i>	75313794	1E-91	10
<i>epidermis-specific secreted glycoprotein</i>	<i>D. carota</i>	34921531	3E-52	10
<i>glutathione S-transferase parC</i>	<i>N. tabacum</i>	1346215	5E-44	10
<i>cytosolic glyceraldehyde-3-phosphate dehydrogenase</i>	<i>S. alba</i>	120675	2E-127	9
<i>cysteine proteinase</i>	<i>A. thaliana</i>	30315954	3E-64	7
<i>Vitamin-B12-independent methionine synthase isozyme</i>	<i>A. thaliana</i>	8134566	5E-77	7
<i>V-type proton ATPase</i>	<i>A. thaliana</i>	15233060	6E-135	7
<i>arginine decarboxylase 2</i>	<i>A. thaliana</i>	12229960	5E-118	6
<i>glutamate synthase 1</i>	<i>A. thaliana</i>	300680981	2E-37	6
<i>isocitrate dehydrogenase</i>	<i>G. max</i>	1708401	2E-100	6
<i>MLP-like protein 328</i>	<i>A. thaliana</i>	21542149	9E-81	6
<i>Ubiquitin</i>	<i>A. thaliana</i>	28202244	4E-31	6
<i>60S ribosomal protein</i>	<i>A. thaliana</i>	3123264	5E-30	5
<i>glyoxalase II</i>	<i>A. thaliana</i>	3913733	2E-67	5
<i>zinc finger (C3HC4-type RING finger) family protein</i>	<i>A. thaliana</i>	18403707	1E-45	5
<i>60S ribosomal protein L5-1</i>	<i>A. thaliana</i>	108860938	1E-22	4
<i>60S ribosomal protein L8-3</i>	<i>A. thaliana</i>	75221276	1E-35	4
<i>cysteine proteinase</i>	<i>A. thaliana</i>	1172872	2E-33	4
<i>elongation factor 2</i>	<i>B. vulgaris</i>	6015065	9E-70	4
<i>Enolase</i>	<i>A. thaliana</i>	119350	1E-53	4
<i>galactinol-sucrose galactosyltransferase 2</i>	<i>A. thaliana</i>	269969644	3E-126	4
<i>protein kinase</i>	<i>A. thaliana</i>	22327668	6E-142	4
<i>S-adenosyl-L-homocystein hydrolase 1</i>	<i>A. thaliana</i>	6174970	2E-101	4
<i>secologanin synthase</i>	<i>C. roseus</i>	461812	7E-65	4
<i>rab family GTPase</i>	<i>S. moellendorffii</i>	302787058	2E-51	4
<i>ubiquitin-conjugating enzyme</i>	<i>S. lycopersicum</i>	464981	6E-71	4
<i>ω-6 fatty acid desaturase</i>	<i>B. juncea</i>	3334184	1E-68	4

Supplementary Table S2. Selected examples of ESTs for genes related to cell wall metabolism

Gene annotation	Reference organism	GI number	E-value	ESTs
<i>alpha-L-arabinofuranosidase 1</i>	<i>A. thaliana</i>	75265802	5E-105	1
<i>arabinogalactan peptidase 12</i>	<i>A. thaliana</i>	75273536	2E-13	1
<i>cellulose synthase-like protein A9</i>	<i>A. thaliana</i>	75181330	1E-58	1
<i>endoglucanase 5</i>	<i>A. thaliana</i>	75186663	1E-32	1
<i>endoglucanase 7</i>	<i>A. thaliana</i>	75218974	8E-97	1
<i>expansin A17</i>	<i>A. thaliana</i>	20138096	3E-56	1
<i>extensin 3</i>	<i>A. thaliana</i>	21263622	3E-4	1
<i>fasciclin-like arabinogalactan protein 2</i>	<i>A. thaliana</i>	75207770	1E-42	1
<i>fasciclin-like arabinogalactan protein 16</i>	<i>A. thaliana</i>	75158667	3E-75	1
<i>pectinesterase inhibitor 51</i>	<i>A. thaliana</i>	75180831	3E-85	1
<i>Polygalacturonase</i>	<i>V. vinifera</i>	223635599	2E-49	1
<i>polygalacturonase inhibitor 1</i>	<i>A. thaliana</i>	21263838	4E-48	3
<i>rhamnose biosynthetic enzyme 1</i>	<i>A. thaliana</i>	62901057	6E-71	1
xyloglucan endotransglucosylase/hydrolase protein 14, XTH14	<i>A. thaliana</i>	38605534	3E-88	1
xyloglucan endotransglucosylase/hydrolase protein 26, XTH26	<i>A. thaliana</i>	38605519	3E-56	1

Supplementary Table S3. Selected examples of ESTs for genes related to transporter

Gene annotation	Reference organism	GI number	E-value	ESTs
<i>ABC transporter signature motif</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297840569	1E-26	1
<i>ABC-type transport-like protein</i>	<i>A. thaliana</i>	4741190	5E-34	2
<i>ADNT1, Adenine nucleotide transporter 1</i>	<i>A. thaliana</i>	15234063	1E-55	2
<i>amino acid transmembrane transporter, LHT1</i>	<i>A. thaliana</i>	30693663	1E-100	1
<i>amino acid transmembrane transporter, LHT1</i>	<i>A. thaliana</i>	30693663	1E-100	1
<i>Aquaporin</i>	<i>B. oleracea</i>	11119335	3E-76	1
<i>ATP:ADP antiporter</i>	<i>A. thaliana</i>	15240640	2E-70	1
<i>auxin resistant 1 protein</i>	<i>B. rapa</i> subsp. <i>Campestris</i>	270272090	1E-47	1
<i>cationic amino acid transporter 2, CAT2</i>	<i>A. thaliana</i>	30696198	3E-23	1
<i>efflux carrier, pin3</i>	<i>B. juncea</i>	15485155	3E-96	1
<i>epsilon-adaptin</i>	<i>A. thaliana</i>	30692596	1E-29	1
<i>ethylene insensitive 2, EIN2</i>	<i>A. thaliana</i>	15242709	4E-86	1
<i>ferric reductase defective 3, antiporter</i>	<i>A. thaliana</i>	15231918	3E-56	1
<i>F-type proton ATPase</i>	<i>A. thaliana</i>	166746	1E-74	3
<i>glucose transporter</i>	<i>A. thaliana</i>	21618276	2E-142	1
<i>glycerol-3-phosphate transporter</i>	<i>A. thaliana</i>	18408421	2E-134	1
<i>GTP binding / phospholipase activator</i>	<i>A. thaliana</i>	15228723	2E-81	1
<i>GTP-binding protein</i>	<i>A. thaliana</i>	3334322	4E-42	1
<i>inorganic phosphate transporter 1-7 /Pi cotransporter</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297820224	4E-25	1
<i>lipid transfer protein</i>	<i>B. rapa</i> subsp. <i>Pekinensis</i>	48093506	3E-21	1
<i>lipid transfer protein precursor</i>	<i>B. rapa</i> subsp. <i>pekinensis</i>	122939101	8E-22	1
<i>MATE efflux family protein</i>	<i>A. thaliana</i>	15223402	3E-96	1
<i>mitochondrial import receptor subunit TOM20</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297851168	8E-64	1
<i>mitochondrial phosphate transporter</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297811523	4E-95	2
<i>nitrate transporter</i>	<i>B. napus</i>	9971067	3E-104	1

<i>nitrate transporter</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297825869	8E-53	1
<i>nitrate transporter</i>	<i>B. napus</i>	9971067	6E-76	1
<i>Nonclathrin coat protein, protein transporter</i>	<i>A. thaliana</i>	110741159	1E-42	2
<i>oligopeptide transporter</i>	<i>A. thaliana</i>	145359208	8E-97	1
<i>phosphate transporter</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297823783	2E-81	2
<i>plant uncoupling mitochondrial protein 1, PUMP1</i>	<i>A. thaliana</i>	15232420	4E-98	1
<i>potassium channel</i>	<i>A. thaliana</i>	79326141	3E-22	1
<i>protein transporter</i>	<i>A. thaliana</i>	238479693	1E-102	1
<i>protein transporter</i>	<i>A. thaliana</i>	79494763	2E-109	1
<i>protein transporter</i>	<i>Z. may</i>	226495857	7E-47	1
<i>proton-dependent oligopeptide transport, POT</i>	<i>A. thaliana</i>	15221883	2E-128	1
<i>P-type proton ATPase</i>	<i>A. thaliana</i>	62321204	4E-68	1
<i>pyrophosphate-energized vacuolar membrane proton pump</i>	<i>T. salsuginea</i>	60476796	4E-111	2
<i>rab family GTPase</i>	<i>S. moellendorffii</i>	302787058	2E-51	4
<i>Rab GTPase</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297830542	2E-81	1
<i>transport protein particle; TRAPP</i>	<i>A. thaliana</i>	15239731	4E-96	1
<i>Transporter</i>	<i>A. thaliana</i>	15234794	8E-57	1
<i>two-pore calcium channel</i>	<i>A. thaliana</i>	14041819	7E-68	1
<i>vesicle-mediated transport</i>	<i>A. thaliana</i>	30681419	6E-57	1
<i>V-type proton ATPase</i>	<i>R. communis</i>	255539062	2E-65	2
<i>V-type proton ATPase</i>	<i>A. thaliana</i>	15233060	4E-79	7
<i>V-type proton ATPase</i>	<i>E. salsugineum</i>	60476796	3E-134	2
<i>V-type proton ATPase</i>	<i>G. hirsutum</i>	111154399	7E-34	1
<i>water channel-like protein</i>	<i>A. thaliana</i>	21593526	5E-32	1
<i>WD-40 repeat family protein, protein transport</i>	<i>A. thaliana</i>	30695804	1E-51	1

Supplementary Table S4. Selected examples of ESTs for genes related to phytohormones biosynthesis and response

Gene annotation	Reference organism	GI number	E-value	ESTs
Abscisic acid:				
ABI5-binding protein 1	<i>A. thaliana</i>	75180099	2E-16	1
<i>abscisic acid receptor PYL8</i>	<i>A. thaliana</i>	75170450	5E-21	1
Auxin:				
26S proteasome subunit 4-like protein	<i>B. napus</i>	11045086	2E-102	1
<i>26S proteasome AAA-ATPase subunit RPT4a</i>	<i>A. thaliana</i>	6652884	3E-62	1
<i>26S proteasome regulatory complex subunit subunit P42d</i>	<i>A. thaliana</i>	1521950 3	9E-61	1
ARF1-binding protein	<i>A. thaliana</i>	62319903	5E-107	1
auxin-responsive family protein	<i>A. lyrata</i> subsp. <i>Lyrata</i>	21592781	2E-100	1
auxin-regulated protein	<i>P. trichocarpa</i>	109676318	6E-5	1
auxin resistant 1, AUX1	<i>A. thaliana</i>	18404642	2E-47	1
auxin transport protein, BIG	<i>A. thaliana</i>	21779966	2E-41	1
<i>cullin-associated and neddylation dissociated 1, CAND1</i>	<i>A. thaliana</i>	22325430	7E-51	1
<i>E2 ubiquitin-conjugating enzyme, UBC 10</i>	<i>A. thaliana</i>	183013548	2E-59	1
<i>efflux carrier, pin3</i>	<i>B. juncea</i>	15485155	3E-96	1
F-box/LRR-repeat protein 15	<i>A. thaliana</i>	124007179	9E-110	1
<i>glutathione S-transferase parC</i>	<i>N. tabacum</i>	1346215	2E-75	10
<i>IAA7-auxin-response AUX/IAA family member</i>	<i>Z. may</i>	195635917	1E-38	1
<i>IAA-conjugate-resistant 4</i>	<i>A. lyrata</i> subsp. <i>lyrata</i>	297850898	4E-101	1
nodulin-like protein	<i>A. thaliana</i>	5262203	2E-122	1
phytochrome-associated protein 1	<i>A. thaliana</i>	4093155	3E-78	3
<i>pyrophosphate-energized vacuolar membrane proton pump</i>	<i>T.salsuginea</i>	60476796	3E-111	2
<i>secologanin synthase</i>	<i>C. roseus</i>	461812	7E-65	4
<i>ubiquitinating enzyme</i>	<i>A. thaliana</i>	66354424	9E-71	1
<i>ubiquitin conjugating enzyme 9</i>	<i>A. thaliana</i>	18417097	1E-70	1
<i>V-type proton ATPase</i>	<i>A. thaliana</i>	62321641	9E-66	1
WD-40 repeat protein	<i>A. thaliana</i>	2289095	5E-56	1

Brassinosteroid:				
<i>brassinazole-resistant 2, BIN2</i>	<i>A. thaliana</i>	57012618	1E-17	2
<i>BRI-EMS-suppressor 1, BES1</i>	<i>A. thaliana</i>	42571545	3E-72	2
Ethylene:				
AP2-domain protein RAP2.2	<i>A. thaliana</i>	2281629	3E-50	1
ethylene insensitive 2, EIN2	<i>A. thaliana</i>	15242709	4E-86	1
<i>ethylene-responsive transcription factor</i>	<i>A. thaliana</i>	75264007	8E-15	1
<i>S-adenosylmethionine synthase 3</i>	<i>B. juncea</i>	75306464	1E-87	2
<i>S-adenosylmethionine synthase 4</i>	<i>B. juncea</i>	75306463	1E-98	1

Supplementary Table S5. Selected examples of ESTs for genes related to root development

Gene annotation	Reference organism	GI number	E-value	ESTs
auxin-responsive family protein	<i>A. lyrata subsp.</i>	21592781	2E-100	1
<i>cullin-associated and neddylation dissociated 1, CAND1</i>	<i>A. thaliana</i>	22325430	7E-51	1
<i>ferredoxin-NADP reductase 2</i>	<i>A. thaliana</i>	297851496	1E-56	1
nodulin-like protein	<i>A. thaliana</i>	5262203	2E-122	1
<i>root hair defective 4, RHD4</i>	<i>A. thaliana</i>	30693470	2E-99	1

Supplementary Table S6. Selected examples of ESTs for genes related to amino acid metabolism

Gene annotation	Reference organism	GI number	E-value	ESTs
Arginine				
<i>arginine decarboxylase</i>	<i>A. thaliana</i>	12229960	1E-113	6
Aspartate				
<i>aspartate aminotransferase</i>	<i>A. thaliana</i>	21542386	6E-32	1
Cysteine and methionine				
<i>5-methyltetrahydropteroyltriglutamate-homocysteine methyltransferase</i>	<i>A. thaliana</i>	8134566	2E-109	1
<i>S-adenosyl-L-homocystein hydrolase 1</i>	<i>A. thaliana</i>	6174970	2E-101	4
<i>cysteine synthase</i>	<i>A. thaliana</i>	11131561	2E-51	1
<i>S-adenosylmethionine decarboxylase proenzyme 3</i>	<i>A. thaliana</i>	15213968	2E-130	1
Glycine, serine and threonine				
<i>D-3-phosphoglycerate dehydrogenase</i>	<i>A. thaliana</i>	3122858	4E-62	1
<i>diaminopimelate decarboxylase 1</i>	<i>A. thaliana</i>	75306310	2E-88	1
<i>glutamate synthase 1</i>	<i>A. thaliana</i>	300680981	2E-37	6
Histidine				
<i>histidine decarboxylase</i>	<i>S. lycopersicum</i>	1706319	6E-72	1
Phenylalanine				
<i>trans-cinnamate 4-monooxygenase</i>	<i>A. thaliana</i>	3915085	2E-78	1
Tryptophan				
<i>tryptophan N-hydroxylase 1</i>	<i>A. thaliana</i>	12644083	4E-143	1
<i>tryptophan synthase beta chain 2</i>	<i>A. thaliana</i>	174779	5E-157	2

Supplemental Table 7. Selected examples of ESTs for genes related to stress response

Gene annotation	Reference organism	GI number	E-value	ESTs
<i>alcohol dehydrogenase</i>	<i>B. oleracea</i>	6684350	9E-73	1
<i>aquaporin PIP1-5</i>	<i>A. thaliana</i>	32363338	2E-33	2
<i>Catalase</i>	<i>B. napus</i>	5487875	2E-118	1
<i>chaperone protein dnaJ 2</i>	<i>A. thaliana</i>	21431768	3E-94	1
<i>constitutively activated cell death 1, CAD1</i>	<i>A. thaliana</i>	18397204	2E-55	1
<i>copper/zinc superoxide dismutase</i>	<i>A. lyrata subsp. Lyrata</i>	297826125	4E-81	1
<i>dehydration-responsive family protein</i>	<i>A. thaliana</i>	18405149	3E-64	2
<i>dehydration stress-induced protein</i>	<i>A. thaliana</i>	21553555	1E-66	1
<i>dehydroascorbate reductase</i>	<i>B. rapa subsp. Pekinensis</i>	33285914	2E-47	1
<i>disease resistance response protein</i>	<i>B. rapa</i>	157849646	1E-44	1
<i>glutathione S-transferase 6</i>	<i>A. thaliana</i>	20197312	1E-41	1
<i>glutathione S-transferase parC</i>	<i>N. tabacum</i>	1346215	5E-44	10
<i>heat shock factor binding protein 3, HSFB3</i>	<i>A. lyrata subsp. Lyrata</i>	297824131	9E-22	2
<i>heat shock factor binding protein</i>	<i>O. sativa japonica</i>	11862947	5E-20	1
<i>heat shock protein 70</i>	<i>A. thaliana</i>	240254411	2E-52	1
<i>manganese superoxide dismutase 1</i>	<i>B. napus</i>	169244541	1E-99	2
<i>monodehydroascorbate reductase</i>	<i>B. juncea</i>	4704613	3E-59	1
<i>monodehydroascorbate reductase</i>	<i>B. rapa subsp. Pekinensis</i>	14764532	1E-97	2
<i>osmotin-like protein</i>	<i>A. thaliana</i>	21542444	2E-41	3
<i>Peroxidase</i>	<i>A. thaliana</i>	15234648	2E-96	1
<i>Peroxidase</i>	<i>R. sativus var. niger</i>	166198115	2E-62	2
<i>Peroxidase</i>	<i>R. sativus var. niger</i>	49609452	3E-82	1
<i>Peroxidase</i>	<i>A. thaliana</i>	15237613	3E-87	2
<i>Peroxidase</i>	<i>A. thaliana</i>	2894574	5E-104	1
<i>phosphate starvation-response 3.1, PYK10</i>	<i>A. thaliana</i>	15232626	2E-90	1
<i>senescence-associated cysteine protease</i>	<i>B. oleracea</i>	18141289	5E-110	1
<i>sulfite oxidase, SOX</i>	<i>A. thaliana</i>	79295451	7E-110	1

superoxide dismutase	<i>R. sativus</i>	3114705	1E-15	1
thioredoxin H-type	<i>B. rapa</i>	11135129	9E-62	1
universal stress protein A-like protein	<i>A. thaliana</i>	115502895	1E-79	1
WD-40 repeat family protein, protein transport	<i>A. thaliana</i>	30695804	1E-51	1

Supplementary Table S8. Selected examples of ESTs for genes related to signal transduction

Gene annotation	Reference organism	GI number	E-value	ESTs
Transcription factor				
<i>AP2-domain protein</i>	<i>A. thaliana</i>	15219839	3E-14	1
<i>AP2-domain protein RAP2.2</i>	<i>A. thaliana</i>	2281629	3E-50	1
<i>ARF1-binding protein</i>	<i>A. thaliana</i>	62319903	2E-107	1
<i>brassinosteroid-responsive ring-H2, BRH1</i>	<i>A. thaliana</i>	15233117	5E-87	1
<i>BRI1-EMS-Suppressor 1</i>	<i>A. thaliana</i>	42571545	3E-72	2
<i>flowering locus C1 variant 2</i>	<i>B. rapa var. purpuraria</i>	282721250	1E-76	1
<i>G-box binding factor 5</i>	<i>A. lyrata subsp. lyrata</i>	297836540	5E-39	1
<i>general regulatory factor 8</i>	<i>A. thaliana</i>	30698122	2E-40	1
<i>HAT22</i>	<i>A. thaliana</i>	15235712	3E-106	1
<i>heat shock factor binding protein</i>	<i>O. sativa japonica</i>	11862947	5E-2	1
<i>heat shock factor binding protein 3, HSFB3</i>	<i>A. lyrata subsp. Lyrata</i>	297824131	9E-22	2
<i>homeodomain protein KNAT1/BP</i>	<i>A. thaliana</i>	19908861	1E-51	1
<i>Myb-domain protein</i>	<i>A. thaliana</i>	18395724	1E-56	2
<i>Myb-domain protein 13</i>	<i>A. thaliana</i>	15221419	1E-21	1
<i>Myb-domain protein 51-2</i>	<i>B. rapa subsp. Pekinensis</i>	238625815	5E-130	1
<i>NAC-domain protein 14</i>	<i>B. napus (rape)</i>	31322580	2E-96	1
<i>NAC-domain protein 3</i>	<i>B. napus</i>	31322568	2E-40	1
<i>NAC-domain protein 58</i>	<i>A. thaliana</i>	15229637	5E-51	1
<i>PHD finger family protein</i>	<i>A. lyrata subsp. Lyrata</i>	297849860	1E-27	1
<i>reduced vernalization 1 response 1, VRN1</i>	<i>A. thaliana</i>	30685150	8E-71	1
<i>TOE2</i>	<i>A. thaliana</i>	30697332	5E-6	1
<i>WRKY-domain protein 21</i>	<i>A. lyrata subsp. Lyrata</i>	297822775	1E-59	1
<i>WRKY-domain protein 21-1</i>	<i>B. napus</i>	206574950	6E-12	1
<i>WRKY-domain protein 65-1</i>	<i>B. napus (rape)</i>	206574990	2E-33	1
<i>zinc finger (A20 and AN1) family protein</i>	<i>B. rapa</i>	119720772	1E-63	1

<i>zinc finger (C3HC4-type RING finger) family protein</i>	<i>A. thaliana</i>	18403707	1E-45	5
<i>zinc finger (CCCH-type) family protein</i>	<i>A. thaliana</i>	15231090	3E-82	1
<i>zinc finger (RanBP2-type) family protein</i>	<i>A. thaliana</i>	34395889	4E-19	1
<i>zinc finger family protein</i>	<i>A. lyrata subsp. Lyrata</i>	297812437	5E-23	3
<i>zinc finger family protein, salt inducible</i>	<i>A. thaliana</i>	18410398	3E-45	1
Calcium-related protein				
<i>calcium-binding EF hand family protein</i>	<i>A. lyrata subsp.</i>	297848776	8E-109	1
<i>calcium-binding protein, annexin 3</i>	<i>B. juncea</i>	229458366	1E-68	1
<i>calcium-dependent protein kinase 6</i>	<i>A. lyrata subsp</i>	297799626	3E-127	1
<i>calmodulin-binding adenosine diphosphatase</i>	<i>A. lyrata subsp. Lyrata</i>	297811997	9E-60	1
<i>calmodulin-binding channel, ATCNGC9</i>	<i>A. thaliana</i>	15234769	5E-93	1
<i>calmodulin-binding protein, IQD13</i>	<i>A. thaliana</i>	15231733	2E-97	1
<i>calmodulin-binding protein, IQD2</i>	<i>A. thaliana</i>	145357576	2E-70	1
<i>CBL-interacting protein kinase</i>	<i>B. napus</i>	17224924	1E-89	2
<i>CBL-interacting protein kinase 1</i>	<i>A. lyrata subsp.</i>	297834664	9E-46	1
<i>two-pore calcium channel, ATPC1</i>	<i>A. thaliana</i>	18412295	1E-68	1
Kinase				
<i>adenosine kinase 1, ADK1</i>	<i>A. thaliana</i>	42572347	2E-18	1
<i>calcium-dependent protein kinase 6</i>	<i>A. lyrata subsp. Lyrata</i>	297799626	3E-127	1
<i>CBL-interacting protein kinase</i>	<i>Brassica napus (rape)</i>	17224924	1E-87	2
<i>CBL-interacting protein kinase 1</i>	<i>A. lyrata subsp.</i>	297834664	9E-46	1
<i>chloroplastic adenylate kinase 1</i>	<i>A. lyrata subsp. Lyrata</i>	297823551	2E-85	1
<i>cyclin-dependent kinase C1</i>	<i>A. lyrata subsp. Lyrata</i>	297811129	1E-92	1
<i>lectin protein kinase</i>	<i>A. lyrata subsp. Lyrata</i>	297802800	2E-76	1
<i>leucine-rich repeat protein kinase</i>	<i>A. thaliana</i>	18422906	1E-86	1
<i>light repressible receptor protein kinase</i>	<i>A. thaliana</i>	1321686	3E-79	1
<i>pfkB-type carbohydrate kinase</i>	<i>A. lyrata subsp.</i>	297844934	2E-62	1

	<i>Lyrata</i>			
<i>phosphatidylinositol-4-phosphate 5-kinase,</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297845202	7E-100	1
<i>phosphoenolpyruvate carboxykinase 1, PCK1</i>	<i>A. thaliana</i>	15235730	2E-65	2
<i>protein kinase</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297797331	5E-54	3
<i>protein kinase</i>	<i>A. thaliana</i>	22327668	6E-142	4
<i>protein kinase, D6PK</i>	<i>A. thaliana</i>	15241076	2E-113	1
<i>protein kinase, FUS3</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297820088	8E-82	1
<i>protein kinase, WNK4</i>	<i>A. thaliana</i>	15237174	3E-91	1
<i>pyruvate kinase</i>	<i>A. thaliana</i>	110739133	4E-49	2
<i>receptor protein kinase, CLAVATA1 precursor</i>	<i>A. thaliana</i>	15239123	4E-50	2
<i>receptor-associated kinase, SUB</i>	<i>A. thaliana</i>	30682076	5E-63	1
<i>ribitol kinase</i>	<i>A. thaliana</i>	42567264	7E-108	1
<i>shaggy related protein kinase, ASK-γ</i>	<i>A. thaliana</i>	21553877	4E-165	2
Phosphatase				
<i>3(2),5-bisphosphate nucleotidase</i>	<i>A. thaliana</i>	21618152	3E-30	1
<i>calcium-binding protein, ABI1</i>	<i>A. thaliana</i>	509419	9E-54	1
<i>calmodulin-binding adenosine diphosphatase</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297811997	9E-60	1
<i>phosphatidylinositol-4,5-bisphosphate 5-phosphatase</i>	<i>A. thaliana</i>	30693470	9E-100	1
<i>phospholipase D α1</i>	<i>Brassica oleracea</i> var. <i>capitata</i>	13124444	4E-110	1
<i>protein phosphatase 2A</i>	<i>A. thaliana</i>	683502	8E-133	1
<i>protein phosphatase 2C</i>	<i>Thellungiella halophila</i>	20340237	3E-60	1
<i>trehalose-6-phosphate phosphatase</i>	<i>A. thaliana</i>	15235713	1E-68	1
<i>type I inositol polyphosphate 5-phosphatase</i>	<i>A. thaliana</i>	42569699	9E-57	1
<i>type I phosphodiesterase/nucleotide pyrophosphatase family protein</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297799022	3E-115	1
<i>vacuolar purple acid phosphatase, AtPAP26</i>	<i>A. lyrata</i> subsp. <i>Lyrata</i>	297805048	2E-75	1

Supplementary Table S9. Selected examples of ESTs for genes related to cell structure and division

Gene annotation	Reference organism	GI number	E-value	ESTs
<i>tubulin alpha-1, TUA1</i>	<i>G. hirsutum</i>	54036491	5E-22	1
<i>tubulin alpha-1, TUA1</i>	<i>A. thaliana</i>	267070	3E-88	1
<i>tubulin beta-3, TUB3</i>	<i>G. hirsutum</i>	54036491	3E-67	1
<i>tubulin beta-5, TUB5</i>	<i>T. aestivum</i>	8928427	7E-63	2
<i>tubulin beta-8, TUB8</i>	<i>A. thaliana</i>	2773526	2E-132	1
<i>cell division protease ftsH homolog 10, AtftsH10</i>	<i>A. thaliana</i>	75331189	9E-49	2
cell division control protein 48 homolog A, AtCDC48a	<i>A. thaliana</i>	1705677	2E-157	1
WUS-interacting protein 2	<i>A. thaliana</i>	298352695	3E-75	1

Supplemental Table S10: List of Primers

	forward sequence 5'-3'	Reverse sequence 3'-5'
> <i>Phytochrome associated protein 1</i>	GACCTCTGAAGAGTTGGTCTACGGCA	TGGCCTCCGGTTCGTTTCGTTTC
> <i>polygalacturonase inhibitor</i>	TAACCACCGCGTCACCGCCCTA	CCGGTCAGATTCGTCCAGCTG
> <i>Rab family Gtpase</i>	CATTGCCCTCGGTAATAAGCAGTG	CCTTATCGGTGACAGCGGTGTTGG
> <i>V-typeATPase</i>	GCACCCCAGGCTTTACACTTT	GCGTTGGATGCATAGCTTGA
> <i>Aquaporin</i>	CTCCCACGAACGGTCCAACCC	TTACAGCACCGGGACTGCTCTTGG
> <i>ARF1-binding protein</i>	CCGAGGTCAACCACGAAGGCAT	GTTCCAGTTGAAATAGCGTGCCAGG
> <i>Expansin</i>	CCGGGTTAATGGTTTTTTTTTCC	CTGCTTGAGTCTTCCCCAGATT
> <i>tryptophan n-hydroxylase 1</i>	GTTAAAGGCGGCGACAGGATGGA	GGCAACCCATTGCTTACCGCTG
> <i>ATCNGC9</i>	CATCAAACGCCATCTCTGTCTGGC	CCACTTCTCCCACCGTCTGTTCGT
> <i>inorganic phosphate transporter 1-4</i>	CTTCACCGACGCTTACGATCTCTTCT	CGACAGAGCAAAGGACCATGACCA
> <i>tubulin beta-5</i>	GTGGACGAACAGATGATAAACGTGCAG	TCCTGAACATGGCTGTGAACTGCTC
> <i>topless-related protein 4-like</i>	TCATCAGAACAGGGTAACAGGTCTTGCT	CGAACCCACTGCATCCACCAATC
> <i>Secologanin synthase</i>	AGGATAAGATGAGCACCAAAGTGTGGG	AACGATGCAGGGGAGTTCAAGCC
> <i>epidermis glycoprotein</i>	AGCCGTGGAAGATTCCGACACC	ATTCTACACTCGTCGTTACCGTCGGTAT
> <i>Arginine decarboxylase</i>	AAGCTGAAGCAGAGATGTGTTGAAGGTT	CTTCCCCTCACTATCACACGTCAAATCC
> <i>Cell division protease ftsh</i>	GGTCACGCGGTTGCTGGTTGGT	CAATACCTGTTCCGGCTGCACGG
> <i>Aux1</i>	GCTGCGCACGCTCCGGTCTCC-3	TGAGAGCTTAACACGCATTCAAAGGGGAT
> <i>efflux carrier pin 3</i>	TCTGATGCTGTTGATGGCTATGT	CTGAGCCAGGGAGCTGACA
> <i>RHD4</i>	AACGCGTTGGATGCATAGC	CCCCAGGCTTTACACTTTATGCT
> <i>Glutathione s-transferase ParC</i>	CGCTGCCCTATAGTGAGTCGTA	TGAGCGGATAACAATTTACACA
Internal control		
<i>BnActin</i>	GTGACAATGGAAGTGGAAATGG	ACGGAGGATAGCGTGAGGAA