

Supplement A: List of Arabidopsis kinases identified excluding RLK/Pelle family members known from previous analysis

Arabidopsis kinases are identified according to Materials and Methods. The sequences used were obtained from the July 4, 2001 release of the Arabidopsis Genome distributed by MAiDB. Domain information (as predicted using SMART and Pfam databases) other than the kinase domain is given for each gene.

The list is separated into two categories:

- I. Sequences with kinase domain but are either truncated or missing conserved residues.
- II. Sequences with alignable kinase domains.

I. Truncated or "degenerate" Kinases not included in the phylogenetic analysis

Total: 31

At1g21650	Ring finder, WD40
At1g22720	EGF
At1g22870	-
At1g53090	Coiled coil, WD40
At1g53740	-
At1g65950	Signal
At1g71810	-
At1g79600	-
At2g24990	RIO kinase
At2g31500	EF hand
At2g39190	-
At2g40860	Signal, PP2C domain
At2g40980	-
At2g43830	-
AT3g51270	Coiled coil
AT3g57760	-
AT3g63330	-
AT3g63340	PP2C catalytic domain
AT4g11110	WD40 repeat
AT4g16970	-
AT4g31230	-
AT4g31390	-
AT5g05200	-
AT5g18530	WD40 repeat
AT5g24970	-
AT5g26110	-
AT5g37350	Coiled coil
AT5g51800	Transmembrane
AT5g53450	-
AT5g59630	-
AT5g64940	-

II. Kinases included in the phylogenetic tree in Supplementary Material B.

Total: 400

IRE1 homolog: 3 (306-308)

Newly identified RLK/Pelle family members: 23 (390-424)

Tree Order	Gene Name	Motifs other than kinase
1	At1g50700	EF hand
2	At3g20410	EF hand
3	At1g61950	EF hand
4	At4g04720	EF hand
5	At4g21940	EF hand
6	At4g04740	EF hand
7	At1g76040	EF hand
8	At5g12180	EF hand
9	At5g19360	EF hand
10	At4g23650	EF hand
11	At2g17290	EF hand
12	At4g35310	EF hand
13	At4g38230	EF hand
14	At3g10660	EF hand
15	At5g04870	EF hand
16	At2g38910	EF hand
17	At2g35890	EF hand
18	At1g35670	EF hand
19	At4g09570	EF hand
20	At5g23580	EF hand
21	At5g19450	EF hand
22	At2g41860	EF hand
23	At3g57530	EF hand
24	At3g51850	EF hand
25	At1g18890	EF hand
26	At1g74740	EF hand
27	At3g50530	-
28	At1g49580	-
29	At3g19100	Coiled coil
30	At2g41140	-
31	At3g56760	-
32	At3g49370	-
33	At5g24430	-
34	At2g46700	-
35	At2g17890	EF hand
36	At4g36070	EF hand
37	At5g66210	EF hand
38	At4g04700	-
39	At4g04710	EF hand
40	At1g12580	-
41	At1g12680	-
42	At1g08650	-
43	At3g04530	-
45	At5g07070	-
46	At5g58380	-
47	At5g01810	-
48	At5g45820	-
49	At4g30960	-
50	At1g29230	-
51	At2g34180	-
52	At4g18700	-
53	At5g45810	-
54	At5g25110	-
55	At5g10930	-
56	At2g25090	-
57	At2g30360	-
58	At5g01820	-
59	At2g38490	-
60	At3g23000	-
61	At4g14580	-
62	At1g30270	-
63	At1g01140	-
64	At2g26980	-
65	At4g24400	-
66	At5g35410	-

67	At3g17510	-	137	At3g12200	-
68	At1g48260	-	138	At3g63280	-
69	At5g57630	-	139	At1g50230	-
70	At3g01090	Ubiquitin associated domain	140	At5g18700	-
71	At3g29160	Ubiquitin associated domain	141	At5g20930	Coiled coil
72	At5g39440	Ubiquitin associated domain	143	At1g77720	-
73	At3g50500	-	144	At1g53050	-
74	At5g66880	-	145	At5g50860	-
75	At4g33950	-	146	At1g54610	-
76	At1g78290	-	147	At3g05050	-
77	At1g10940	Coiled coil	148	At1g03740	-
78	At1g60940	Coiled coil	149	At5g44290	-
79	At5g08590	Coiled coil	150	At4g22940	-
80	At5g63650	Coiled coil	151	At1g09600	-
81	At2g23030	-	152	At1g57700	-
82	At4g40010	-	153	At1g33770	-
83	At5g47750	-	154	At4g10010	-
84	At4g26610	-	155	At1g74330	-
85	At5g55910	-	156	At1g18670	-
86	At3g27580	-	157	At5g39420	-
87	At1g79250	-	158	At5g10270	-
88	At1g16440	-	159	At5g64960	-
89	At3g12690	-	160	At1g67580	-
90	At5g40030	-	161	At5g63370	-
91	At2g44830	-	162	At1g20930	-
92	At2g36350	-	163	At1g76540	-
93	At3g52890	-	164	At2g38620	-
94	At5g03640	-	165	At3g54180	-
95	At2g34650	-	166	At3g48750	-
96	At2g26700	Zinc finger	168	At1g18040	-
97	At3g44610	Signal	169	At1g73690	-
98	At1g53700	-	170	At1g66750	-
99	At3g14370	-	171	At5g63610	-
100	At3g45780	PAS, PAC	172	At4g01370	-
101	At5g58140	PAS, PAC	173	At1g01560	-
102	At1g51170	-	174	At2g46070	-
103	At3g20830	-	175	At1g07880	-
104	At3g25250	-	176	At4g11330	-
105	At4g13000	-	177	At2g43790	-
106	At1g03920	Coiled coil, Kinase extension	178	At3g59790	-
107	At2g20470	Coiled coil, Kinase extension	179	At3g45640	-
108	At3g23310	Coiled coil, Kinase extension	180	At1g10210	-
109	At4g14350	Kinase extension	181	At1g59580	-
110	At4g33080	Kinase extension	182	At2g18170	-
111	At2g19400	Kinase extension	183	At4g36450	-
112	At1g30640	Coiled coil, Kinase extension	184	At1g18150	-
113	At5g09890	Kinase extension	185	At1g73670	-
114	At2g20040	-	186	At3g18040	Coiled coil
115	At1g48490	Kinase extension	187	At5g19010	-
116	At3g17850	Kinase extension	188	At2g42880	-
117	At5g62310	Kinase extension	189	At1g53510	-
118	At1g45160	Kinase extension	190	At3g14720	-
119	At3g08730	Kinase extension	191	At2g01450	-
120	At3g08720	Kinase extension	193	At4g19110	-
121	At3g10540	-	194	At5g45430	-
122	At5g04510	-	195	At4g13020	-
123	At2g25880	-	196	At4g28980	-
124	At4g32830	-	197	At3g05840	-
125	At2g45490	-	198	At5g26751	-
126	At5g60550	-	199	At5g14640	-
127	At3g45240	-	200	At4g00720	-
128	At2g37840	-	201	At1g57870	-
129	At3g53930	-	202	At1g09840	-
130	At3g61960	-	203	At3g61160	-
131	At1g49180	-	204	At2g30980	-
132	At3g04810	-	205	At1g06390	-
133	At5g28290	-	206	At4g18710	-
134	At1g54510	-	208	At3g50000	-
135	At3g44200	-	209	At5g67380	-
136	At3g20860	-	211	At2g23080	-

212	At2g23070	Signal	286	At5g12090	-
214	At3g53570	-	287	At2g42550	-
215	At4g32660	-	288	At2g41930	-
216	At4g24740	-	289	At2g40560	-
218	At1g73460	-	290	At2g40500	-
219	At1g73450	-	291	At2g40580	-
220	At3g17750	-	292	At3g56280	-
221	At2g40120	-	293	At3g04910	-
222	At5g35980	-	294	At5g28080	-
223	At1g13350	Coiled coil	295	At3g22420	-
224	At3g53640	Coiled coil	296	At3g48260	Coiled coil
225	At3g25840	Coiled coil	297	At3g51630	-
226	At3g44850	-	298	At5g58350	-
227	At5g22840	-	299	At3g18750	Coiled coil
228	At3g53030	-	300	At1g49160	Coiled coil
229	At4g35500	-	301	At5g41990	-
230	At2g17530	-	302	At1g64630	Signal, Coiled coil
231	At3g21220	Signal	303	At5g55560	-
232	At1g51660	Signal	304	At1g02970	-
233	At1g18350	Signal	305	At3g59410	-
			306	At5g24360	Signal, Transmembrane, IRE1
234	At1g73500	-	homolog		
235	At3g06230	-	307	At2g17520	IRE1 homolog
236	At1g32320	Signal	308	At3g11870	Signal, IRE1 homolog
237	At4g29810	-	309	At2g40730	-
238	At4g26070	-	310	At4g29380	WD40
239	At5g56580	-	311	At1g04210	LRR
240	At5g40440	Nuclear transport factor 2	312	At5g08160	-
242	At4g10730	Coiled coil	313	At2g32850	-
243	At4g24100	-	314	At4g32250	-
244	At5g14720	-	315	At5g13530	Ring finger, Ankyrin repeat
245	At1g79640	-	316	At1g73660	-
246	At1g70430	Coiled coil	317	At1g18160	-
247	At1g23700	-	318	At1g08720	-
248	At4g14480	Coiled coil	319	At5g11850	-
249	At1g69220	-	320	At5g03730	-
250	At3g15220	-	321	At4g24480	-
251	At4g08500	-	322	At4g23050	PAS, PAC
252	At4g08480	-	323	At5g49470	Coiled coil, PAS, PAC
253	At4g08470	-	324	At1g67890	Coiled coil, PAS, PAC
254	At4g12020	Signal, Transmembrane	325	At3g06630	Coiled coil, PAS, PAC
255	At1g53570	-	326	At3g06620	Coiled coil, PAS, PAC
256	At1g63700	-	327	At3g06640	PAS, PAC
257	At5g66850	-	328	At2g31010	-
258	At3g07980	Transmembrane	329	At3g58640	-
259	At3g13530	Armadillo/beta-catenin like repeat	330	At2g42630	-
261	At1g09000	-	331	At1g16270	-
262	At1g54960	-	332	At1g79570	-
263	At3g06030	-	333	At2g35050	-
264	At2g43930	-	334	At1g04700	-
266	At4g26890	-	335	At3g24720	-
267	At5g55090	-	336	At3g46920	-
268	At2g32510	-	337	At5g57610	Signal
269	At1g05100	-	338	At3g01490	-
270	At3g50310	-	339	At5g50000	Coiled coil
271	At5g67080	-	340	At3g22750	-
272	At4g36950	PLC catalytic domain X	341	At4g14780	-
273	At1g07150	-	342	At3g63260	-
274	At2g30040	-	343	At2g24360	-
275	At3g46140	-	344	At4g31170	-
276	At3g45790	-	345	At1g62400	-
277	At3g45670	-	346	At3g46930	-
278	At3g46160	Coiled coil	347	At5g58950	-
279	At2g18530	-	348	At2g17700	Pfam ACT domain
280	At2g34290	-	349	At4g35780	-
281	At5g27790	-	350	At4g38470	Pfam ACT domain
282	At2g41920	-	351	At3g27560	-
283	At2g05060	-	352	At5g40540	-
284	At2g41910	Transmembrane	353	At5g50180	-
285	At5g27510	-	354	At5g01850	-

355	At3g50720	-
356	At3g50730	-
357	At5g66710	-
358	At5g07140	-
359	At5g58520	-
361	At4g18950	Ankyrin repeat
362	At3g58760	Ankyrin repeat
363	At1g14000	Ankyrin repeat
364	At3g59830	Ankyrin repeat
365	At2g43850	Ankyrin repeat
366	At2g31800	Ankyrin repeat
367	At1g64300	Coiled coil
368	At5g41730	Signal
369	At1g01450	-
390	At2g11530	RLK/Pelle family member
391	At3g45920	RLK/Pelle family member
392	At1g22720	RLK/Pelle family member
398	At2g30730	RLK/Pelle family member
399	At3g08760	RLK/Pelle family member
407	At1g01740	RLCK XII
408	At4g00710	RLCK XII
409	At5g41260	RLCK XII
410	At3g54030	RLCK XII
411	At3g09240	RLCK XII
412	At1g63500	RLCK XII
413	At5g46570	RLCK XII
414	At1g50990	RLCK XII
415	At2g17170	RLCK XII
416	At3g57750	RLCK XII
417	At3g52530	RLCK XII
418	At3g57700	RLCK XII
419	At3g57730	RLCK XII
420	At3g57740	RLCK XII
421	At3g57640	RLCK XII
422	At1g65190	RLCK XII
423	At2g40270	RLCK XII
424	At3g57120	RLCK XII
425	At1g68830	Transmembrane
426	At5g01920	-
427	At2g40870	-
429	At4g14340	-
430	At3g23340	-
431	At1g04440	-
432	At5g43320	-
433	At1g03930	-
434	At5g44100	-
435	At4g28540	-
436	At4g26100	-
437	At1g72710	-
438	At2g19470	-
439	At4g08800	-
440	At4g28860	-
441	At4g28880	-
443	At2g25760	-
444	At3g13670	-
445	At3g03940	Transmembrane
446	At5g18190	-