

Table S2: An inventory of rice serine protease-like proteins identified by multifold approach (see methods for details)

S No.	Accession IDs	Subcellular location*	Chromosome location	Chromosomal nucleotide position	Domain architecture [#]
	Peptidase S1				
1.	LOC_Os01g17070	-	chr01	9813579-9819508	SP1
2.	LOC_Os02g48180	-	chr02	29440576-29428572	SP1-PDZ
3.	LOC_Os02g50880	C	chr02	31046301-31041303	SP1
4.	LOC_Os03g62900	M	chr03	35528190-35524751	SP1
5.	LOC_Os04g38640	M	chr04	22578407-22584022	SP1-PDZ
6.	LOC_Os05g05480	C	chr05	2694326-2702362	SP1
7.	LOC_Os05g34460	C	chr05	20245089-20249133	SP1
8.	LOC_Os05g41810	C	chr05	24301942-24296583	SP1
9.	LOC_Os05g49380	C	chr05	28057054-28053696	SP1-PDZ
10.	LOC_Os06g12780	C	chr06	6979076-6986146	SP1
11.	LOC_Os08g04920	C	chr08	2508088-2502760	SP1
12.	LOC_Os11g14170	M	chr11	7898540-7905915	SP1-PDZ
13.	LOC_Os12g04740	-	chr12	2015390-2011885	SP1
14.	LOC_Os12g04750	-	chr12	2021827-2016494	SP1
15.	LOC_Os12g42210	C	chr12	26141895-26146391	SP1
	Peptidase S8				
1.	LOC_Os01g17160	S	chr01	9859977-9867525	SN-SP8-PA-zf
2.	LOC_Os01g50680	S	chr01	29084547-29088397	SP8-PA
3.	LOC_Os01g52750	S	chr01	30328564-30323978	SN-SP8-PA
4.	LOC_Os01g56320	S	chr01	32430881-32435924	SN-SP8-PA
5.	LOC_Os01g58240	S	chr01	33639461-33642676	SN-SP8-PA
6.	LOC_Os01g58260	-	chr01	33647773-33652165	SN-SP8-PA
7.	LOC_Os01g58270	M	chr01	33654069-33659381	SN-SP8-PA
8.	LOC_Os01g58280	-	chr01	33662847-33667801	SN-SP8-PA
9.	LOC_Os01g58290	S	chr01	33671457-33676190	SN-SP8-PA
10.	LOC_Os01g64850	S	chr01	37626684-37628957	SN-SP8-PA
11.	LOC_Os01g64860	S	chr01	37631499-37634046	SN-SP8-PA
12.	LOC_Os02g10520	S	chr02	5537969-5531255	SN-SP8-PA
13.	LOC_Os02g16940	S	chr02	9657964-9651664	SN-SP8-PA
14.	LOC_Os02g17000	S	chr02	9716988-9713806	SN-SP8-PA
15.	LOC_Os02g17060	-	chr02	9763188-9758964	SP8-PA
16.	LOC_Os02g17080	S	chr02	9771266-9765760	SN-SP8-PA
17.	LOC_Os02g17090	S	chr02	9783134-9779479	SN-SP8-PA
18.	LOC_Os02g17150	-	chr02	9830181-9827336	SP8-PA
19.	LOC_Os02g44520	C	chr02	26898470-26915168	SP8
20.	LOC_Os02g44590	S	chr02	26963552-26966831	SN-SP8-PA
21.	LOC_Os02g53850	S	chr02	32926386-32928732	SN-SP8-PA

22.	LOC_Os02g53860	S	chr02	32932957-32930214	SN-SP8-PA
23.	LOC_Os02g53910	-	chr02	32955698-32953626	SP8-PA
24.	LOC_Os02g53970	S	chr02	32993115-32990503	SN-SP8-PA
25.	LOC_Os03g02750	S	chr03	1016356-1013668	SN-SP8-PA
26.	LOC_Os03g04950	S	chr03	2369497-2371848	SN-SP8-PA
27.	LOC_Os03g06290	-	chr03	3137994-3133190	SP8-PA
28.	LOC_Os03g13930	S	chr03	7544904-7542562	SN-SP8-PA
29.	LOC_Os03g31630	S	chr03	18017049-18019415	SN-SP8-PA
30.	LOC_Os03g40830	S	chr03	22662506-22665022	SN-SP8-PA
31.	LOC_Os03g55350	S	chr03	31432053-31429194	SN-SP8-PA
32.	LOC_Os04g02960	C	chr04	1171479-1184226	Ex2-SP8-zf-rve
33.	LOC_Os04g02980	-	chr04	1196627-1206156	SN-SP8-PA
34.	LOC_Os04g03060	C	chr04	1241288-1247418	SP8-PA
35.	LOC_Os04g03100	S	chr04	1267078-1271986	SN-SP8-PA
36.	LOC_Os04g03710	-	chr04	1625973-1635158	SP8
37.	LOC_Os04g03800	S	chr04	1689195-1697126	SN-SP8-PA
38.	LOC_Os04g03810	S	chr04	1701791-1707259	SN-SP8-PA
39.	LOC_Os04g03850	S	chr04	1723750-1728127	SP8-PA
40.	LOC_Os04g10360	S	chr04	5416994-5414718	SN-SP8-PA
41.	LOC_Os04g35140	S	chr04	21014190-21017349	SN-SP8-PA
42.	LOC_Os04g45960	S	chr04	26845614-26849260	SN-SP8-PA
43.	LOC_Os04g47150	S	chr04	27620092-27622853	SN-SP8-PA
44.	LOC_Os04g47160	S	chr04	27626806-27624524	SN-SP8-PA
45.	LOC_Os04g48420	S	chr04	28504197-28501867	SN-SP8-PA
46.	LOC_Os05g30580	S	chr05	17532343-17534798	SN-SP8-PA
47.	LOC_Os05g36010	S	chr05	21139951-21137405	SN-SP8-PA
48.	LOC_Os06g06800	S	chr06	3203764-3211338	SP8-zf-rve
49.	LOC_Os06g06810	-	chr06	3212064-3216135	SP8
50.	LOC_Os06g40700	S	chr06	24213865-24223110	SN-SP8-PA-Arf-C2
51.	LOC_Os06g41880	M	chr06	25073354-25081347	SN-SP8-PA
52.	LOC_Os06g48650	S	chr06	29389594-29396241	SN-SP8-PA-DI034
53.	LOC_Os07g39020	S	chr07	23396515-23398959	SN-SP8-PA
54.	LOC_Os07g48650	S	chr07	29128580-29131180	SN-SP8-PA
55.	LOC_Os08g23740	S	chr08	14229839-14233606	SN-SP8-PA
56.	LOC_Os08g35090	S	chr08	21978260-21980696	SN-SP8-PA
57.	LOC_Os09g26920	S	chr09	16303448-16306220	SN-SP8-PA
58.	LOC_Os09g30250	-	chr09	18366516-18369186	SN-SP8-PA
59.	LOC_Os09g36110	S	chr09	20442020-20445330	SN-SP8-PA
60.	LOC_Os10g25450	S	chr10	12652431-12655613	SN-SP8-PA
61.	LOC_Os10g38080	S	chr10	19884287-19881747	SN-SP8-PA
62.	LOC_Os11g15520	-	chr11	8787476-8779246	SP8-PA
63.	LOC_Os12g23980	S	chr12	13626256-13623902	SN-SP8-PA
	Peptidase S9				
1.	LOC_Os01g01830	-	chr01	438108-446043	S9N-SP9

2.	LOC_Os01g42690	C	chr01	24256884-24260436	SP9
3.	LOC_Os01g49510	M	chr01	28458941-28462476	SP9
4.	LOC_Os01g57770	-	chr01	33389377-33395003	SP9
5.	LOC_Os02g18850	-	chr02	11006120-11001174	DPN-SP9
6.	LOC_Os02g55330	-	chr02	33825620-33821765	SP9
7.	LOC_Os03g19410	M	chr03	10903506-10911075	SP9
8.	LOC_Os03g24450	-	chr03	13922956-13915390	SP9
9.	LOC_Os04g47360	-	chr04	27731653-27736499	SP9
10.	LOC_Os05g46210	-	chr05	26552739-26556138	SP9
11.	LOC_Os06g06770	C	chr06	3185463-3190478	SP9
12.	LOC_Os06g11180	C	chr06	5868597-5861189	SP9
13.	LOC_Os06g11190	C	chr06	5875410-5869108	SP9
14.	LOC_Os06g42730	C	chr06	25653946-25657802	SP9
15.	LOC_Os06g51410	M	chr06	31100909-31091896	S9N-SP9
16.	LOC_Os07g41730	S	chr07	25005528-25010886	SP9
17.	LOC_Os07g48970	C	chr07	29302048-29307671	SP9
18.	LOC_Os09g28040	M	chr09	16970889-16963970	S9N-SP9
19.	LOC_Os09g29950	-	chr09	18177653-18171296	SP9
20.	LOC_Os10g04620	C	chr10	2180472-2185695	SP9
21.	LOC_Os10g28020	C	chr10	14026913-14037230	PD40-SP9
22.	LOC_Os10g28030	-	chr10	14037671-14043081	SP9
23.	LOC_Os12g18860	-	chr12	10940985-10934302	SP9
	Peptidase S10				
1.	LOC_Os01g06490	S	chr01	3051360-3053744	SP10
2.	LOC_Os01g11670	S	chr01	6292773-6294116	SP10
3.	LOC_Os01g22980	S	chr01	12901670-12897795	SP10
4.	LOC_Os01g43890	S	chr01	25124205-25125563	SP10
5.	LOC_Os01g61690	S	chr01	35671089-35667727	SP10
6.	LOC_Os02g02320	S	chr02	772120-767270	SP10
7.	LOC_Os02g26480	S	chr02	15503307-15494377	SP10
8.	LOC_Os02g42310	-	chr02	25392472-25395207	SP10
9.	LOC_Os02g46260	S	chr02	28157275-28162148	SP10
10.	LOC_Os02g55130	-	chr02	33717972-33721178	SP10
11.	LOC_Os03g09190	-	chr03	4771295-4774728	SP10
12.	LOC_Os03g26920	S	chr03	15383132-15385508	SP10
13.	LOC_Os03g26930	S	chr03	15388220-15391649	SP10
14.	LOC_Os03g27480	S	chr03	15755066-15751532	SP10
15.	LOC_Os03g27510	M	chr03	15772720-15767916	SP10
16.	LOC_Os03g27530	M	chr03	15784615-15777538	SP10
17.	LOC_Os03g27550	S	chr03	15789716-15789091	SP10
18.	LOC_Os03g27590	C	chr03	15816908-15811468	SP10
19.	LOC_Os03g52040	M	chr03	29811733-29817416	SP10
20.	LOC_Os03g52070	M	chr03	29823911-29828592	SP10
21.	LOC_Os03g52080	M	chr03	29833771-29840308	SP10

22.	LOC_Os04g09720	S	chr04	5034168-5027622	SP10
23.	LOC_Os04g25560	S	chr04	14638040-14632981	SP10
24.	LOC_Os04g32540	-	chr04	19245848-19249190	SP10
25.	LOC_Os04g44410	S	chr04	25915347-25910742	SP10
26.	LOC_Os05g06660	M	chr05	3412402-3407843	SP10
27.	LOC_Os05g18610	S	chr05	10657189-10655949	SP10
28.	LOC_Os05g18630	M	chr05	10670762-10667439	SP10
29.	LOC_Os05g50570	S	chr05	28734539-28735879	SP10
30.	LOC_Os05g50580	S	chr05	28738704-28740059	SP10
31.	LOC_Os05g50600	S	chr05	28742638-28743966	SP10
32.	LOC_Os06g08720	S	chr06	4352378-4346160	SP10
33.	LOC_Os06g13410	S	chr06	7375933-7375287	SP10
34.	LOC_Os06g13420	-	chr06	7379891-7377699	SP10
35.	LOC_Os06g32740	M	chr06	19038412-19042904	SP10-TP21
36.	LOC_Os06g32780	-	chr06	19060064-19065219	SP10
37.	LOC_Os06g36570	C	chr06	21483520-21482765	SP10
38.	LOC_Os06g51370	S	chr06	31064441-31066448	SP10
39.	LOC_Os07g29620	S	chr07	17412155-17408334	SP10
40.	LOC_Os07g46350	S	chr07	27642075-27637160	SP10
41.	LOC_Os08g44640	S	chr08	27936461-27941793	SP10
42.	LOC_Os09g28830	S	chr09	17456817-17453093	SP10
43.	LOC_Os09g28840	-	chr09	17465186-17460336	SP10
44.	LOC_Os10g01110	M	chr10	82403-79467	SP10
45.	LOC_Os10g01130	-	chr10	91509-89395	SP10
46.	LOC_Os10g01140	S	chr10	95442-95050	SP10
47.	LOC_Os10g39560	-	chr10	20638865-20635789	SP10
48.	LOC_Os11g10750	S	chr11	5891351-5887351	SP10
49.	LOC_Os11g24180	-	chr11	13277262-13272014	SP10
50.	LOC_Os11g24200	S	chr11	13286632-13284630	SP10
51.	LOC_Os11g24290	S	chr11	13342469-13338442	SP10
52.	LOC_Os11g24320	-	chr11	13357680-13353961	SP10
53.	LOC_Os11g24340	S	chr11	13370360-13365693	SP10
54.	LOC_Os11g24370	-	chr11	13397295-13394524	SP10
55.	LOC_Os11g24410	S	chr11	13416731-13413373	SP10
56.	LOC_Os11g24510	S	chr11	13480850-13472958	SP10
57.	LOC_Os11g27170	M	chr11	15141602-15147766	SP10-Retrotrans
58.	LOC_Os11g27200	-	chr11	15155954-15160912	SP10
59.	LOC_Os11g27260	M	chr11	15187092-15190205	SP10
60.	LOC_Os11g27270	-	chr11	15196239-15198815	SP10
61.	LOC_Os11g27320	-	chr11	15215131-15217831	SP10
62.	LOC_Os11g27350	-	chr11	15236511-15241893	SP10
63.	LOC_Os11g31980	S	chr11	18325227-18329071	SP10
64.	LOC_Os11g42390	M	chr11	24965544-24971675	SP10
65.	LOC_Os12g15470	S	chr12	8833520-8828475	SP10
66.	LOC_Os12g39170	S	chr12	24076535-24070416	SP10

	Peptidase S12				
1.	LOC_Os06g48770	M	chr06	29479186-29471793	ABC1-SP12
	Peptidase S14				
1.	LOC_Os01g16530	C	chr01	9379941-9375744	SP14
2.	LOC_Os01g32350	C	chr01	17726025-17731752	SP14
3.	LOC_Os02g42290	C	chr02	25376439-25378863	SP14
4.	LOC_Os03g19510	C	chr03	10954941-10951972	SP14
5.	LOC_Os03g22430	C	chr03	12847202-12842042	SP14
6.	LOC_Os03g29810	C	chr03	16958307-16961760	SP14
7.	LOC_Os04g44400	C	chr04	25907642-25908862	SP14
8.	LOC_Os05g51450	C	chr05	29237881-29234239	SP14
9.	LOC_Os06g04530	C	chr06	1948450-1952326	SP14
10.	LOC_Os08g15270	M	chr08	9269071-9269418	SP14
11.	LOC_Os10g43050	C	chr10	22682237-22684378	SP14
12.	LOC_Os11g11210	C	chr11	6193268-6189735	SP14
13.	LOC_Os12g10590	-	chr12	5644637-5643889	SP14
	Peptidase S16				
1.	LOC_Os03g19350	C	chr03	10884163-10872890	LON-AAA-SP16
2.	LOC_Os06g05820	C	chr06	2651070-2660303	AAA-SP16
3.	LOC_Os07g48960	C	chr07	29301026-29291022	LON-AAA-SP16
4.	LOC_Os09g36300	C	chr09	20600328-20593969	LON-AAA-SP16
	Peptidase S26				
1.	LOC_Os02g58140	S	chr02	35523210-35521470	SP26
2.	LOC_Os03g55640	M	chr03	31626264-31623333	SP26
3.	LOC_Os04g08340	M	chr04	4425111-4427765	SP26
4.	LOC_Os05g23260	M	chr05	13100862-13108531	SP26
5.	LOC_Os06g16260	-	chr06	9261241-9255962	SP26
6.	LOC_Os09g28000	M	chr09	16952405-16949751	SP26
7.	LOC_Os11g40500	M	chr11	23625495-23622304	SP26
	Peptidase S28				
1.	LOC_Os01g56150	M	chr01	32317717-32314344	SP28
2.	LOC_Os06g43930	S	chr06	26417010-26411495	SP28
3.	LOC_Os10g36760	S	chr10	19169290-19174570	SP28
4.	LOC_Os10g36780	M	chr10	19179375-19184288	SP28
5.	LOC_Os11g05760	S	chr11	2638093-2632684	SP28
	Peptidase S41				
1.	LOC_Os01g47450	M	chr01	27095326-27099780	SP41
2.	LOC_Os02g57060	M	chr02	34883220-34886513	SP41
3.	LOC_Os06g21380	C	chr06	12344921-12349134	SP41

	Peptidase S49				
1.	LOC_Os02g49570	M	chr02	30251251-30242321	SP49
	Peptidase S54				
1.	LOC_Os01g05430	-	chr01	2563506-2566252	SP54
2.	LOC_Os01g16330	M	chr01	9256209-9260637	SP54-UBA
3.	LOC_Os01g18100	-	chr01	10136833-10134126	SP54
4.	LOC_Os01g55740	M	chr01	32074067-32077954	SP54
5.	LOC_Os01g67040	-	chr01	38908306-38909673	SP54
6.	LOC_Os02g22100	-	chr02	13157662-13164618	SP54
7.	LOC_Os03g02530	-	chr03	911926-914460	SP54
8.	LOC_Os03g24390	-	chr03	13875589-13871510	SP54
9.	LOC_Os03g44830	-	chr03	25244972-25238253	SP54-UBA
10.	LOC_Os04g01300	-	chr04	220402-217779	SP54
11.	LOC_Os04g48130	-	chr04	28266232-28267975	SP54
12.	LOC_Os05g13370	C	chr05	7302412-7298240	SP54
13.	LOC_Os07g46170	-	chr07	27549204-27553491	SP54
14.	LOC_Os08g43320	-	chr08	27246100-27243213	SP54
15.	LOC_Os09g28100	C	chr09	17006593-17009062	SP54
16.	LOC_Os09g35730	-	chr09	20200512-20197629	SP54
17.	LOC_Os10g37760	-	chr10	19699448-19701639	SP54
18.	LOC_Os11g47840	-	chr11	28211146-28207320	SP54
	Peptidase S59				
1.	LOC_Os03g07580	-	chr03	3841519-3845391	SP59
2.	LOC_Os12g06870	C	chr12	3337346-3343201	SP59
3.	LOC_Os12g06890	-	chr12	3347749-3351986	SP59

*: Subcellular locations for serine protease-like proteins in rice predicted using TargetP[19]. S: Secreted; C: Chloroplast; M: Mitochondria; -: Not predicted

#: Domain architectures observed in serine protease-like proteins identified in rice proteome.

SPxx- Serine protease family SPxx domain, where SPxx refers to the serine protease family as per MEROPS[5] classification (see text for details); PDZ- PDZ domain (Pfam[37] accession: PF00595); PA- Protease associated domain (Pfam[37] accession: PF02225); SN- Subtilisin N-terminal region (Pfam[37] accession: PF005922); D1034- Domain of unknown function (Pfam[37] accession: PF06280); Arf- ADP-ribosylation factor family (Pfam[37] accession: PF00025); C2- C2 domain (Pfam[37] accession: PF00168); zf- Zinc knuckle (Pfam[37] accession: PF00098); rve- Integrase core domain (Pfam[37] accession: PF00665); EX2- Extensin-like region (Pfam[37] accession: PF04554); S9N- Prolyl oligopeptidase, N-terminal beta-propeller domain (Pfam[37] accession: PF02897); PD40- WD40-like beta propeller repeat (Pfam[37] accession: PF07676); DPN- Dipeptidyl peptidase (DPP IV) N-terminal region (Pfam[37] accession: PF00930); Transposase_21- Transposase family tnp2 (Pfam[37] accession: PF02992); Retrotrans- Retrotransposon gag protein (Pfam[37] accession: PF03732); ABC1- ABC1 family (Pfam[37] accession:

PF03109); LON- ATP-dependent protease La (LON) domain (Pfam[37] accession: PF02190); AAA- ATPase family associated with various cellular activities (Pfam[37] accession: PF00004); UBA- UBA/TN-S domain (Pfam[37] accession: PF000627)