A				в				
	Yeast gene	Arabidopsis gene	locus		1. a.	Col WT 9DNa		
	UBC1	UBC27	at5g50870	1	4 4	5 6 8		
	1.1.1	UBC32	at3g17000	1		-		
	UBC6	UBC33	at5g50430	1		-	HRL)3A
		UBC34	at1g17280	1		-	j	
		UBC7	at5g59300	1	100		ACT	
	UBC7	UBC13	at3g46460					
		UBC14	at3g55380	C	N	,		
	DOA10	DOA10A	at4g34100		20	5 3	7	
	DUATU	DOA10B	at4g32670	1	8	0 0		
	HRD1	HRD1A	at3g16090	1	4	0 9	í	
	HRDI	HRD1B	at1g65040	1			HRL)3B
		HRD3A	at1g18260					-
	HRD3	HRD3B	at1g73570				ACT	л. Л
D	1 10 1	20 30 40 /LTRADSTROPHPEARHLLNTTRKS	50 50 ROPHKEARHEPNADEFVGFYVPH	70 DYSPRNEEKNYQ	80 90 STHONETTDSORHT YELL	100 110 VQSE((FNMSEATYTLSQI)		
P	HRD3A HRILSYGIV HRD3B HRVSGQSII HRD3B HRVSGQSII	TLSLLVFSFIEFGVHARPVVLVLS CAISLFTLSLYIHRVQARPFVLVLS CAISLFTLSLYIHRVQARPFVLVLS	IEDL.NGGFNONGAYESSDFDEFG IEDL.NGGFNDNGAYESSDFDEFG	ESEPKSEEELDP ESEPKSEEELDP	GSHRRIFETNESTVH GSHRRIFETNESTVH	ASASPQYYSGLI ASASPQYYSGLI	KILSAASEGNF KILSAASEGNT KILSAASEGNT	TLHEEA
Cons	ensus\$r!sgqsI 131 140	aislftlslyihrvqarpfvlvlSr 150 160 170	180 190	sePksEEeldp	210 220	asaSp9xy5g1) 230 240	nkilsaasegNt 250	Lineea 260
P	HRD3 LEKFNOLTHFTHHSAU HRD3A VDEIEARSSAGDPHAA HRD3B VSEIDSSASSGDPHAA HRD3B VSEIDSSASSGDPHAA	LFDLAVMYATGGCASGNDQTVIPQG ISINGFVYGIG	SAKALLYYORAAQLGALKAKOYL KSKSFLHINFAAAGGAMQSKMAL SSKSTLHHNFAAAGGAMQSKMAL KSKSTLHHNFAAAGGAMQSKMAL	AFTYLRQD AFRYLRQN AFRYLRQN	MINDKAVQLYAELAETAVN Mydkavelyaelaetavn Mydkavelyaelaetavn	SFLISKOSPVVEPTRI SFLISKOSPMAEPVRI SFLISKOSPMAEPVRI	ISGTEEN IIGTEEN IIGTEEN	GLNSVP
	261 270 1	280 290 300 FIAOVNGVOHTLQTEPHGRFAFHG	310 320	330	340 350	360 370 FORHVDNI DPI OVEVYVRCI	380	390
P	HRD3R KGALRKSRGEED HRD3B KDALRKSRGEED	EDFOILEYOR	KGNANAHYKIGLFY KGNSVAMMKIGLFY	YFGLRGLRRDHT YFGLRGLRRDHA	KALHU KALYU	FLKAVOKGEPRSt FSKA	ELLGETYARGA	GVERNY
	HRD3B KDALRKSRGEED ensus kdalRKsrgeeD		KGNSVAMMKIGLFY IkGNsvanhkIglfY		kalyw	Fskav.kgepst		
р	391 400 IIIIIAREETILTSLEISI HRD3A TKALEALTLAAKEGLY HRD3B HRD3B ensus	410 420 430 RRAGEPIGRACIDLGLINOYITINII SARINGIGYLYVKGYGVDKKNYT EFNGLGYLYVKGYGVDKRNYT	KAREYFEKAYDNEDPSGHYNLG	VLYLKGIGVNRD	VRQATKYFFYAANAGQPK	AFYQLAKHFHTGYGLKKNLE	MATSFYKLVAE	RGPH
	521 530	540 550 560	570 580	590	600 610	620 630	640	650
P	HRD3A SSLSRHALEAYLKGD HRD3B SSLSRHALEAYLKGD HRD3B	SEVAL HAYSQL AEQGYETAQVSAAYI /GKALTL YSRHAEHGYEVAQSHAAH /GKAFTL YSRHSELGYEVAQSHAAH 	LLDKYGERSHCHGVSGFCTDKER LVDKYGERSHCHGVYGFCTDKER	HERAHSLAARAS HDRAHSLAARAS	EQGNEHRALLIGDAYYYG EQGNEHRALLIGDAYYYG	rgterdfyrnnenynhakso Rgterdfyrnnenynyrkso	ISNAQAHENLGY ISNAQAHENLGY	MHEHGQ MHEHGE
	651 660	670 680 690	700 710	720	730 740	750 760	770	780
P	HRD3H GLPFDLHLAKRYYDES HRD3B GLPFDLHLAKRYYDQ/ HRD3B	/SENDHRFYLRSKLSVLKLHLKSHL SLQSDARARLPYTLALRSLHLRR	IYADTVLVRVVDSLPEVYPKVET IYADTALVQVLNSLPEVHQKVVE	UTENVVEFFEGNA	TILTLEVCLITTLYLRER	SHKHRTVYQNGANHRGDDD QRRQVVVVADPVAADVA 	PLORDVAQHLA	ol vthg AFPR
	781. 790	800 810 820	830 841					
р	yHRD3 IRD3A HRD3B HRD3B HRD3B ensus	IARRGUNYRFNGAQLNANGNRQQEQU	IQQQQAQGPPGHDFNYQIFAI					

Supplementary information, Figure S1 Analysis and identification of putative ERAD components in *Arabidopsis*.

(A) *Arabidopsis* homologs of yeast ERAD components. (B) RT-PCR analysis of the HRD3A transcripts in WT and T-DNA insertion mutant seedlings. The primer pairs used for RT-PCR were LP/RP shown in Figure 2 (A). *ACTIN1* was used as an internal

control. **(C)** RT-PCR analysis of the HRD3B transcripts in wild-type and T-DNA insertion mutant seedlings. The primer pairs used for RT-PCR were LP3/RP2 shown in Figure S2 **(A)**. Detection of *ACTIN1* was used as an internal control. **(D)** The alignment of HRD3A, putative HRD3B (pHRD3B), intron-left HRD3B (HRD3B) and yeast HRD3P proteins. The red arrow indicates the terminus of the truncated form of intron-left HRD3B.