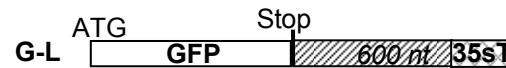
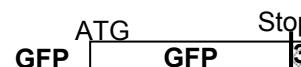
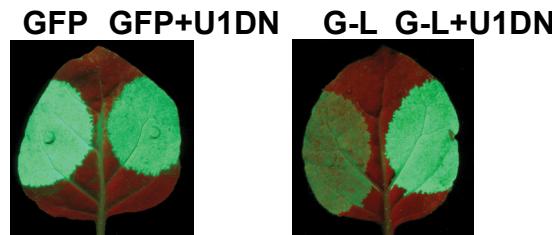
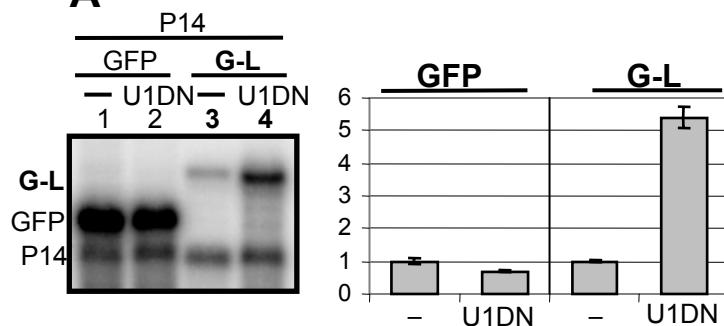


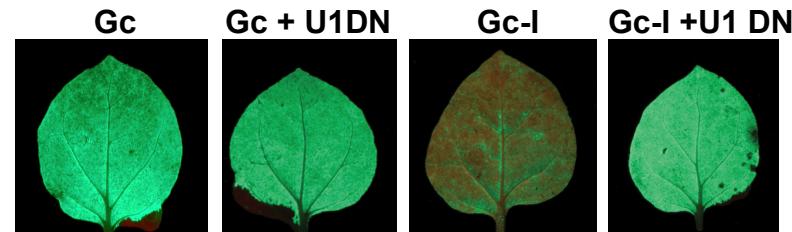
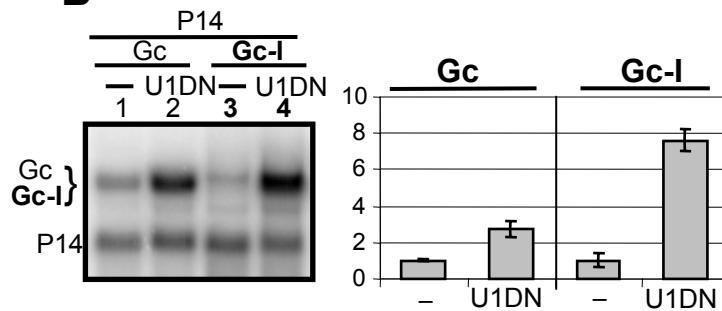
Supplementary Figure 1

A



Strong target of long 3'UTR-based NMD

B

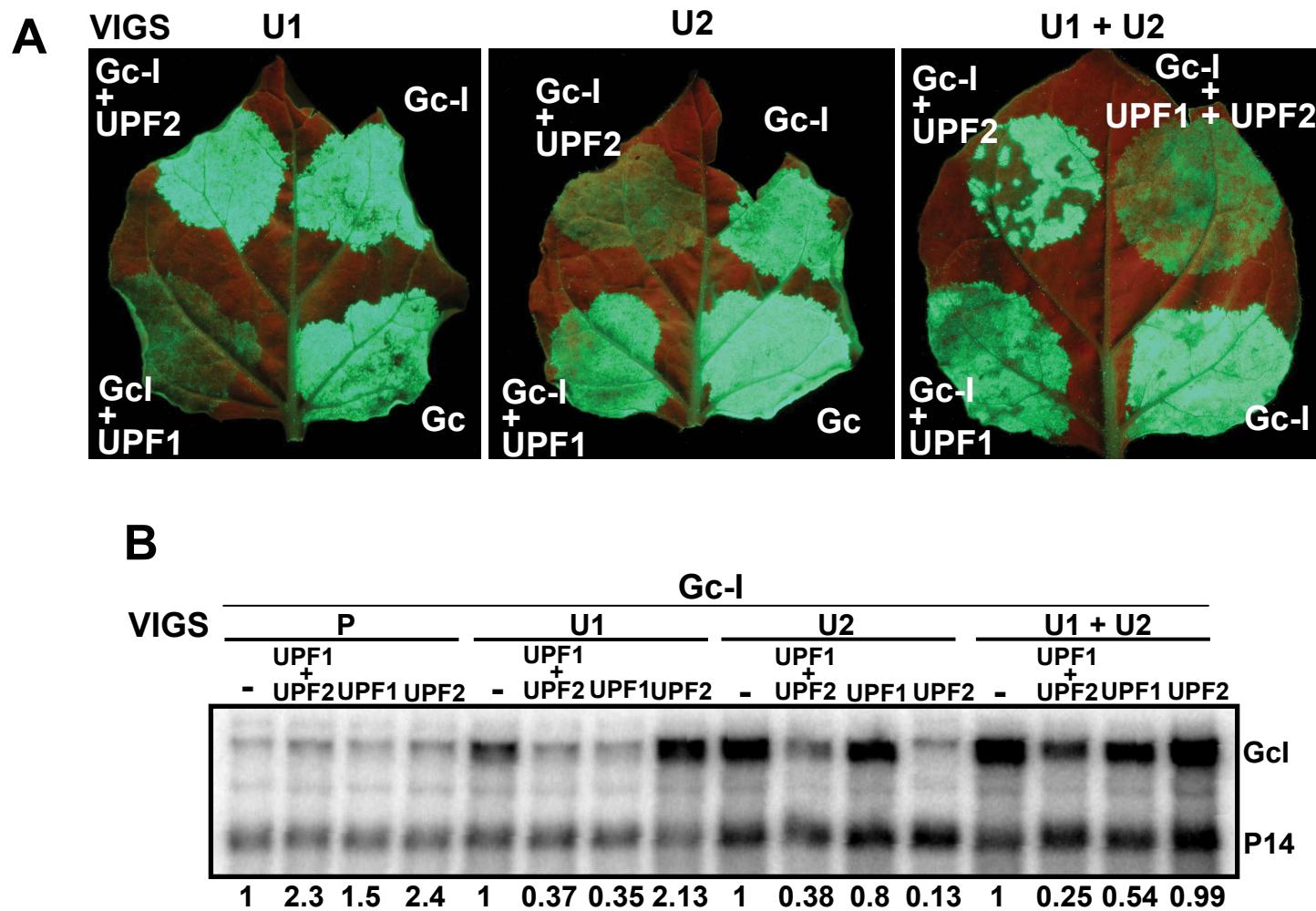


Weak target of long 3'UTR-based NMD

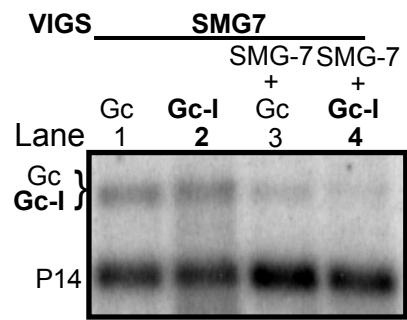
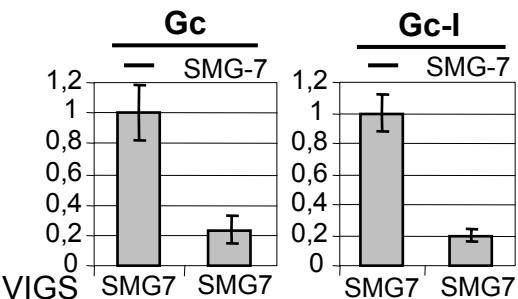
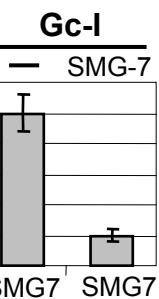


Weak target of long 3'UTR-based NMD + strong target of intron-based NMD

Supplementary Figure 2



Supplementary Figure 3

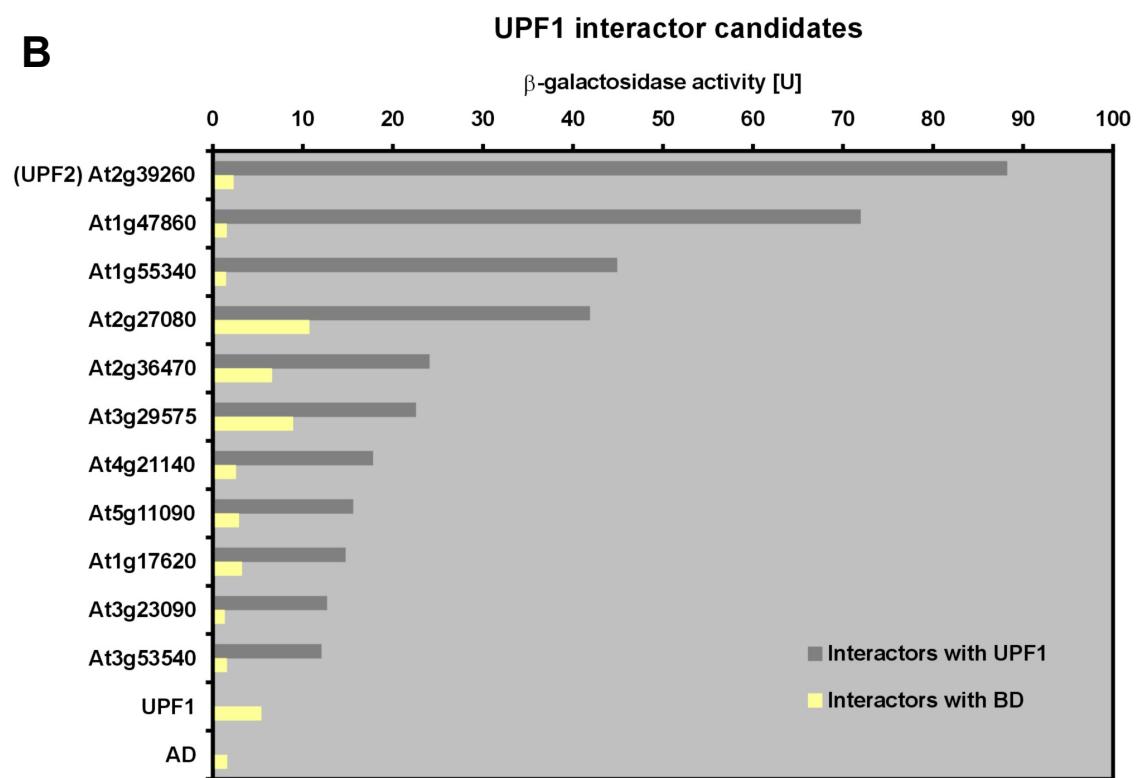
A**B****C**

Supplementary Figure 4

A

TAIR ID	Coded protein	ALW		100 mM 3-AT		oNPG		fragment/full (AA)
		UPF 1	BD	UPF 1	BD	UPF 1	BD	
At2g39260	UPF2	+	-	+++	-	88.23	2.29	439/1186
At1g47860	non-LTR retrotransposon family (LINE)	+	-	+++	-	71.96	1.52	1557/1560
At1g55340	expressed unknown protein	+	-	+	-	44.90	1.45	205/205
At2g27080	harpin-induced protein-related	+	+	++	-	41.86	10.72	135/260
At2g36470	expressed protein	+	-	-	-	24.05	6.56	295/327
At3g29575	expressed protein	+	+	-	-	22.54	8.90	231/231
At4g21140	expressed protein	+	-	-	-	17.76	2.54	228/228
At5g11090	serine-rich protein-related	+	-	-	-	15.58	2.88	176/217
At1g17620	expressed protein	+	-	-	-	14.73	3.22	107/264
At3g23090	expressed unknown protein	+	-	-	-	12.68	1.31	338/338
At3g53540	expressed protein	+	-	-	-	12.05	1.55	862/924

B



Supplementary Figure 5

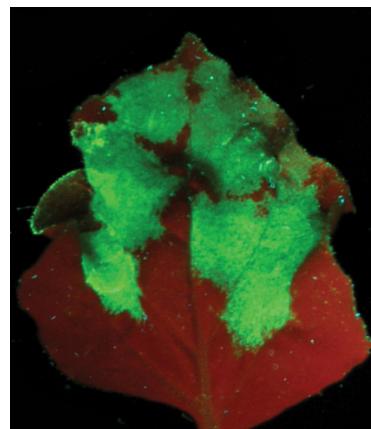
A

SMG7 mRNA levels in different silenced plants

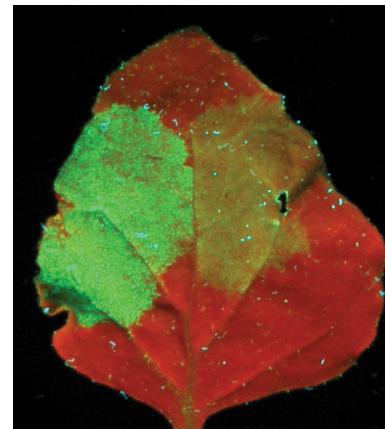
P-silenced	1
SMG7-silenced	0.24
U1-silenced	6.35
U2-silenced	8.05
U3-silenced	1.81
Mago-silenced	1.17
Y14-silenced	0.98
P-silenced +U1DN	2.2

B

GFP
+U1DN GFP



G-smg7T
+U1DN G-smg7T



Supplementary Figure 6

Last cds exon

PtSMG-7 ATGGAAACCAGCAGTTCTCCAATTCTGAGCAATATCATGGACAGTCATCTGGGTG
 RcSMG-7 ATGGAAATCAGCAGTCACTCCAATGCCGAGCAATATCACGGAAAGTCTATCTGGAGTA
 MtSMG-7 ATGGAAATCAGCATTACTTCACTGCCGAGCAATTCAAGGACAGTCATCTGGACAG
 VvSMG-7 AAGAATATCAGCAATTACTCCACTGCCAGATCAATATCAGGGACAGTCAGTGTGGCCAG
 AtSMG-7 ACAAAAACCATCACTCAACTCCCCGAGCAATATCAAGGACAGTCAGTTGGTCA
 OsSMG-7 AAGGGAAACCAGCAAATGGTCCACTGGCGAACATTACCAAGCACAATCTGCATGGTCTG
 *

First 3'UTR exon

PtSMG-7 GTCGTTATATTGTGTA-ATCAGCATGGAAAGCATAG-ATGGTAAGATTGT
 RcSMG-7 GTCGTTATCTGTGAGATGAGATGAAAGCA---ATGGTAAGATAAT
 MtSMG-7 GTCGTTACTTGGTGTGATGTCGGTTAAGAATATTG-ACGGTATGTTAT
 VvSMG-7 GTCGTTATTCGTGAGATCATTGAGAGCACAG-ATGGTAAGATCAT
 AtSMG-7 GTCGTCACTTGTGAGATCAGAATGGAAGAGAACACGGTAAGAGCAA
 OsSMG-7 GCAATTACCTTGTGTA--CTAGCTTGT-ACCATG--AAGTTAATT
 * * * * * * * * * * * * * *

PtSMG7 TTATCTGAGGTTT---GAGAATGATTGGCGAATGTACTGCATC--CTTTGCTACC
 RcSMG7 CTATCTTAGGTTCC---GAGAATGACTTCGGTGAATGTACTGCCTC--CTCTGCTACC
 MtSMG7 GTTTCTTGAGGATTCTTACAGATCCATTCTC
 VvSMG7 TGTTCTTGAGGTCCT--TGAGCATGGTCTCGTGTACGTCCTGCATT--TTGTTGGTACCC
 AtSMG7 GTTGATCTAGGTAAT--TGGGAATGATGCAGGTGAGTGTACGCAACGTTTATTGCTACC
 OsSMG7 TTGGTTTCAGGATTTGCTGAGAATCTGTTGGAGTAAGTGGCGAAGA-----TTGACACT
 * * *** * *

First 3'UTR intron

PtSMG7 AAATAC-AAACTCCAACCTAGCAGCC-TTGTCAACTTAAATTAACTTTGTTGGAG
 RcSMG7 AAATAT-GAACTCCAACCTTGAGCCTTGTCAA-TTCAAAATTAAATTGTTGGAG
 MtSMG7 -----AAACTCCAACCTCAGCTTC--TTGTCACTG-----ACTGTTATTGGAG
 VvSMG7 AAATTGGAACCTCCAACGTTGCAGCC-TTGTCAATGTT---GTTAAGTCTTGTGGAG
 AtSMG7 -----TAACCTCCAAC-----TGATCCTTGTCTGCTGAAGTCTAGTTGGAG
 OsSMG7 TGAATTGGCCCTTGATAAGTACAGCC-CTGTCA-----GTAATGTTCTTGGAA
 ** * ** * **** *

Last 3'UTR exon

PtSMG-7 TCTGTGCCAGATAACCTCAGAGCTCTAGTTGGAGAGTGCAGGGAAATGA
 RcSMG-7 TTGAATGCAGATTGCCGGAGCTCTCTGTATGGGAAGACAAATATTGG
 MtSMG-7 ATTATTGCAGTTATACTGAGCTCTAAAGACCGAAGGAAGGAAGATAAGA
 VvSMG-7 TTTTATACAGATTGCACCGAGCTCCCCAGCCCAGAGGAAGGAAATTGTTG
 AtSMG-7 CCTCTGCACTATCTCTCTCTGGGGTGTCTTACTTTATTCTCCT
 OsSMG-7 TGATTACAGGGTATGGCAGGTCTCCAGGCTATGAAGGGGATTAGAT

Second 3' UTR intron

PtSMG7 AGAGCCT-----CCTTGCG-GGGCACTTGCTATT-GAACAGG GTAAGTATCT
 RcSMG7 CATGGGTGGCTTTGGCTTTGC-TGGTGCTTGCTACT-GAACAAAGTGAAGTGTCT
 MtSMG7 TTTATTTGGCCTAGACTTGTGC-AGGAAATTGCTACTCCAAAAGGTTGGTATCA
 VvSMG7 GATGGT--GTGTTGGCATCTTG-CAGCGTGTGCTACT-AAAAAAAGTGAAGTATCC
 AtSMG7 TCTTGTCGGCTTGGCTTGTGGGGCACTTCCCTACC-TGACGGGTTGGCTCTT
 OsSMG7 GATGCTTGTCTTGGAAAGCATAAC-AAGTGCTACCCCTG-GAACTGGTAAGTTTG
 * * * * * *** *

Supplementary Figure 7

H. sapiens 1 MSLQSAQYLRLQ-----AEVLKADMDSKLGLPAAEVWTSRQ-----ALQDLYQKMLVTDLEY
C. elegans M3DEWEQQLTVE-----LRKIPRGTEAAPQYLR-----HLMRMFVADFET
S. cerevisiae -----MPEPSNTQKEEDLPTAFNGIKSCLNSILKSNQLFQDYALLNGFLAFVHSKLNAAILTSIESQCGRSFAADLDS
A. thaliana MTLQMDKTTAS-----GSWERAKSIYDEIAELANKRQRAGN---PPDPN---LLQLLREKYEAIILESHTF
O. sativa MTVPMKDGTAS-----PSSRELAQRLLKNAEHESRLRRSAQSKVPSDPN---IWFQMRNEYEKIIILADHDF
P. patens (1) MSLRSDAASVS-----IPLALAKQHYNKALELEKQLRTLLQAKGPFDGNVARSLLQISLREKYESVILEDHEL
P. patens (2) MSLPSTDATBVS-----APLALAKQHYNQALELEKQLRSILLQVKGPFDSSVRTLQNSSLREKYESIILEDHEL

H. sapiens ALDKRVEQDLWN-----HAFK-NQITITLQGQAK-----NRANFNRS-----EVQANLSLFLEAASGFYTQ
C. elegans AVSKRFDFVFWNK-----LKSMMDEITKAMEN-----DRLVN--HNVQNLAIIGFLTD
S. cerevisiae FDQSSISSLDFSWESVHYE--IFRWFMWNRNYILFEKENKQQTRKFIDFRKRMNSKMLRFFKTVQNFYVNINTV
A. thaliana SEQHNIEIELWLWQL----HYK--RIEYFRLHINRVLASSTSTAACQNVKGPSKAEQIAQIKLQFRTFLSEATGFYHD
O. sativa SEKREIEYLLWLWQL----HYK--RIEEFRAHI-----VSAGKNNANP---DRIKRIRSSVRSFLSEATGFYHD
P. patens (1) SESHEVEQAIWRL----HYK--QIDEYRARIKK-----INYAAVAPKSGTQRESIIKIVASFKSFLAEVSGFYNN
P. patens (2) AESHEVEQAIWRL----HYK--QIDEFRAKIKK-----INHAASTLKGQTQRDSVLUKIIIAAFKSFЛАEVTCFYHN

* *

H. sapiens LLQELCTVFNVDILPCRV-KSSQLGIISNRQTHTSAIVK-----PQSSSCSYICQHCLVHLGDIARYRN-----
C. elegans LSLLVHYHYEIIPNYGNDISKQLTWTBDVFLNRKPIKSK-----KNSRVMAYVLLRMGDLMYKE-----
S. cerevisiae YKKYDISVLLPKRIIQDLKLSDIENTTNVGDLILAVKTFNSSSPLAHLIPTLFHRCLLFLGTAARYKILLEEISNR
A. thaliana MILKIRSKYGLPLGSFS-EDQQSQNLSDKDGELEAVQ-----KALKSCHRCLIYLGDLARYKGMYAEG-DS
O. sativa LMLKIRSTYGLPLGYFG-EGEPDSSVVVPDKDGKVVGVK-----KGLLSCYRCCLIYLGDLTRYKGGLYGDV-DY
P. patens (1) LILKLRAKNGLPQDYSAFESSGSAAINAEDKDRITKVK-----RCQLSCHRCFIFLGLDARYKEVHANNQDT
P. patens (2) LILKLRAARNGLPQDCSAFGSSGNGVITGDDNERRARVE-----RCQLSCHRCLIYLGDLARYKEVHGQLQDT

**

H. sapiens -----QTSQAESYYRHAAQLVPSNGQPYNQLAILASSRGDHLTTIFYYCRSIAVRFPFFAASTNQKAL-SRALES
C. elegans -----NYPRAQEYYEQSCRINBADGAVWNQLGLLISSLGAKNLESVYFHTRALHATMEFFTASGGLTNIF-KNFANR
S. cerevisiae YSISNFKSLDFFRLLASLVLPSAGEETYSCAGAAIFLQTGNLGIAVFNFVKGMMTRMPSPVSIKNGALMVDN-KSS
A. thaliana RSR-QYASASSYYLQAASLWPASGNPHHQLAIVASYSRDEFVTTYRYFRSLAVEYPPFTARDNLIVAF-DRNRQS
O. sativa ASR-EYAAASIYYKEAASLCPNSGNPHHQLAILASYAGDEVTAIYRYFRSLAVDNPFSAARENLILAF-DRFHMQ
P. patens (1) RSL-DFSVAAAGHYLQAASLWPSSGNPHNQLAVLATYVSDELLAVYRYFRSLAVETPFLTARDNLILLF-ERNRQQ
P. patens (2) RSM-DFSVAAAGYYLQAASLWPSSGNPHNQLAVLATYVNDELLAVYRYFRSLAVETPFLTARDNLILLF-EQNRLQ