**Supplementary table 2**

**Primer list**

**All primers are written from 5’ to 3’ by convention**

P1 ERDB2-1\_S1 GATACGGAATTTGAGGTGCACAA

P2 ERDB2-1\_OLA CTCCTCGCCCTTGCTCACCATCCTGGCAGCTTCGTATACCCAG

P3 ERDB2-1\_OLS CACGATCACGACGAGATCTCAATGAATATCTTCAGGCTTACGGG

P4 ERDB2-1\_A1 ACTGTCTTGTGGCGTCTCATGTA

P5 ERDB2-1\_KIS CCATGCAAAGGAGGTGTCTGATA

P6 ERDB2-1\_KIA TGCCCAGGAATATCAGCTTCAT

P7 S65T-140A AACTTCAGGGTCAGCTTGCCGTAG

P8 S65T-631S AGCAAAGACCCCAACGAGAAGC

P9 ERD2B-2\_S1 AGATGGTTGGGGTTAGCATTTGT

P10 ERD2B-2\_A1 TACCATGTCTGAAGAGCAAAGCA

P11 ERD2B-2\_S2 GCAATGGTCTTTGTCTTCGGAAT

P12 ERD2B-2\_A2 TGAATGCTGTTTCAAGCCTTACA

P13 ERD2B-2KOS TGAGGGCAATTTTGAGAACAAAT

P14 ERD2B-2KOA TCATGAATCCCAAATACCAATGA

P15 ERD2B-2\_S3 ATGCCTTGACACCTGTAGCTGAG

P16 ERD2B-2\_A3 TCACCCATTAGACTGGGAACAGA

P17 35Spro2R AGATAGCTGGGCAATGGAATCCGA

P18 g6term4F TAGGGTTCTTATAGGGTTTCGCTCA

P19 npt87S TGACTGGGCACAACAGACAATC

P20 npt780A GTCAAGAAGGCGATAGAAGGCGATG

P21 35SproXbaI AGAGAGATCTAGACCCCTACTCCAAAAATGTCAAA

**To amplify ERD2 sequences from small vectors for further subcloning**

cool35S

CACTATCCTTCGCAAGACC

**Human ERD2 fluorescent fusions**

BglII-hERD2

GAGATCTCAATGAACATTTTCCGGCTG

huERD2-NheI

CTCATTGCGCTAGCTGCTGGCAAACTGAGCTTCTTTCCC

**Plant ERD2 epitope tagging**

FlagCter

TCCTGGTCTCTAGATTACTTGTCATCGTCATCCTTGTAATCAGCTGGTAATTGGAGCTTTTTGTTG

MycCter

TCCTGGTCTCTAGAGGTCCTCCTCGGAGATCAGCTTCTGCTCAGCTGGTAATTGGAGCTTTTTGTTG

HACter

TCCTGGTCTCTAGAAATTAAGCGTAATCTGGAACATCGTATGGGTAAGCTGGTAATTGGAGCTTTTTGTTG

**Human ERD2 epitope tagging**

Rob flag

TCCTGGTCTCTAGATTACTTGTCATCGTCATCCTTGTAATCTGCTGGCAAACTGAGCTTCTTTCCC

Rob myc

TCCTGGTCTCTAGAGGTCCTCCTCGGAGATCAGCTTCTGCTCTGCTGGCAAACTGAGCTTCTTTCCC

Rob HA

TCCTGGTCTCTAGATTAAGCGTAATCTGGAACATCGTATGGGTATGCTGGCAAACTGAGCTTCTTTCCC

**Human ERD2 mutagenesis**

S209A sense AAAGTACTCAAGGGAAAGAAGCTCGCTTTGCCAGCATAATCTAGAGGA

S209A anti TCCTCTAGATTATGCTGGCAAAGCGAGCTTCTTTCCCTTGAGTACTTT

S209D sense AAAGTACTCAAGGGAAAGAAGCTCGATTTGCCAGCATAATCTAGAGGA

S209D anti TCCTCTAGATTATGCTGGCAAATCGAGCTTCTTTCCCTTGAGTACTTT

K206A sense ACAAAAGTACTCAAGGGAGCTAAGCTCAGTTTGCCAGCA

K206A anti TGCTGGCAAACTGAGCTTAGCTCCCTTGAGTACTTTTGT

K207A sense AAAGTACTCAAGGGAAAGGCTCTCAGTTTGCCAGCATAA

K207A anti TTATGCTGGCAAACTGAGAGCCTTTCCCTTGAGTACTTT

KKAA sense ATTACAAAAGTACTCAAGGGAGCTGCTCTCAGTTTGCCAGCATAATCT

KKAA anti AGATTATGCTGGCAAACTGAGAGCAGCTCCCTTGAGTACTTTTGTAAT

L208G^L210G anti CTTCGGATCCTCTAGATTATGCTGGACCACTTCCCTTCTTTCCCTTGAGTACTTTTGTA

L208G^L210G sense TACAAAAGTACTCAAGGGAAAGAAGGGAAGTGGTCCAGCATAATCTAGAGGATCCGAAG

**Modifications to Arabidopsis thaliana ERD2**

ERD2b∆C5 anti TAAGCTGGTCTAGATTACTTTTTGTTGTTCTTCCAGCTTAGGAAA

ERD2b::p24tail

TCTGCTTCGGATCCTCTAGATAAGTTTCTTCTTGTGGAAATACCTCTTCCAGCTTAGGAAATAATAATAGA

ERD2b::P24a KK^SS sense

TGGAAGAGGTATTTCCACAAGTCTTCTCTTATCTAGAGGATCCGAAG

ERD2b::P24a KK^SS anti

CTTCGGATCCTCTAGATAAGAGAAGACTTGTGGAAATACCTCTTCCA

LPYS sense

CATGTCTAATTCATTGCCTTACTCGGTGAAAGATGTGCATTATGATAACGCCAAGTTCCGCCAACGAT

LPYS anti

CGATCGTTGGCGGAACTTGGCGTTATCATAATGCACATCTTTCACCGAGTAAGGCAATGAATTAGA

**Cis-Golgi marker**

MNS3 ClaI

CTTGATCTATCGATGTCGAATTCATTGCCTTACTCGGTG

MNS3 SalI

TGAAGTTGGTCGACCCATGAGTCGTGATATTGTCTCCTTC

**Fluorescent ARF1 fusion**

ARF1-NcoI

CACCAAATCCATGGGGTTGTCATTCGGAAAG

ARF1NheI

GCCATTGCGCTAGCTCCTGCCTTGCTTGCGATGTTGTTGG