

Supplemental Table 4A. UPR-associated STRING-DB networks responding to MON-DNU

Pathway	Count	FDR	Targets
response to endoplasmic reticulum stress	35	1.43E-22	AARS, ASNA1, ASNS, ATF3, ATF4, ATF2A2, CALR, DERL2, DNABJ11, DNABJ9, DNAC10, EIF2AK3, FAM129A, FKBP14, GFP11, HSP90B1, HSPA5, HYOU1, NPL, OCA, PDIA4, PDIA5, PDIA6, PP1R15B, PPP2C, PSMC6, SDF2L1, SEC31A, SELK, SYVN1, TRIB3, UBAA5, UFD1L, WFS1, WIP1
response to topologically incorrect protein	29	7.93E-19	AARS, ASNA1, ASNS, ATF3, ATF4, ATXN3, CALR, DDIT3, DERL2, DNABJ11, DNABJ5, DNABJ9, EIF2AK3, FKBP14, GFP11, HSP90B1, HSPA5, HSPH1, HYOU1, MANF, PDIA5, PDIA6, SDF2L1, SEC31A, SYVN1, UFD1L, WFS1, WIP1
cellular response to topologically incorrect protein	26	7.93E-19	AARS, ASNA1, ASNS, ATF3, ATF4, ATXN3, CALR, DDIT3, DERL2, DNABJ11, DNABJ9, EIF2AK3, FKBP14, GFP11, HSP90B1, HSPA5, HYOU1, PDIA5, PDIA6, SDF2L1, SEC31A, SYVN1, UFD1L, WFS1, WIP1
response to unfolded protein	26	2.12E-16	AARS, ASNA1, ASNS, ATF3, ATF4, CALR, DDIT3, DERL2, DNABJ11, DNABJ5, DNABJ9, EIF2AK3, FKBP14, GFP11, HSP90B1, HSPA5, HSPH1, HYOU1, MANF, PDIA5, PDIA6, SEC31A, SYVN1, WFS1, WIP1
endoplasmic reticulum unfolded protein response	23	2.12E-16	AARS, ASNA1, ASNS, ATF3, ATF4, CALR, DDIT3, DERL2, DNABJ11, DNABJ9, EIF2AK3, FKBP14, GFP11, HSP90B1, HSPA5, HYOU1, PDIA5, PDIA6, SEC31A, SYVN1, WFS1, WIP1
cellular response to unfolded protein	23	2.79E-16	AARS, ASNA1, ASNS, ATF3, ATF4, CALR, DDIT3, DERL2, DNABJ11, DNABJ9, EIF2AK3, FKBP14, GFP11, HSP90B1, HSPA5, HYOU1, PDIA5, PDIA6, SEC31A, SYVN1, WFS1, WIP1
protein folding	27	2.12E-14	AARS, CALR, DNABJ4, DNABJ11, DNABJ5, DNAC10, FKBP11, FKBP14, FKBP2, FKBP4, FKBP5, HSP90B1, HSPA5, HSPH1, MLEC, PDIA4, PDIA5, PDIA6, PFDN2, PPIG, PPL1, PRKCSH, SIL1, TOP1, TUBA3D, TUBB3, WFS1
cellular response to stress	71	4.02E-14	AARS, ANKRD1, ASNA1, ASNS, ATF4, ATMIN, ATP1B1, ATF2A2, ATXN3, BAF, BCL2A1, CALR, CD38, C12orf65, DDIT3, DDIT4, DERL2, DNABJ11, DNABJ9, DNAC10, DTX3L, DUSP6, DYRK2, EEF1D, EIF2A, K3, FAM129A, FANCE, FKBP14, FKBP4, GABARAPL2, GFP11, HSP90B1, HSPA5, HSPH1, HTRA2, HYOU1, ID2, IER3, IRAK2, KL, F4L, ARP, LIG4, MSH2, NFKBIA, NPL, OCA, PDIA4, PDIA5, PDIA6, PPP1CB, PPP1R15B, PPP2C, PSMC6, RAB9A, SDF2L1, SEC31A, SELK, SUMO1, SYVN1, TAF9, TDP2, TIMEB39A, TRIB1, TRIB3, UBAA5, UBE2T, UFD1L, WFS1, WIP1
response to stress	105	4.00E-12	AARS, ABAT, ACP5, ANG, ANKRD1, ASNA1, ASNS, ATF4, ATMIN, ATF2A2, ATXN3, BAF, BCL2A1, CALR, CAPZ1, CCL23, CCL42, CD163, CD38, CHST2, C12orf65, CTNNA1, CYP27B1, DDIT3, DDIT4, DERL2, DNABJ4, DNABJ11, DNABJ5, DNAC10, DTX3L, DUSP6, DYRK2, EEF1D, EIF2AK3, FKBP5, FAM129A, FANCE, FKBP14, FKBP4, GABARAPL2, GFP11, HSP90B1, HSPA5, HSPH1, HYOU1, ID2, IER3, IRAK2, KL, F4L, ARP, LIG4, MSH2, NFKBIA, NPL, OCA, PDIA4, PDIA5, PDIA6, PPIG, PPL1, PPP1CB, PPP1R15B, PPP2C, PSMC6, RAB9A, RAB18, RNF198, SDF2L1, SEC31A, SELK, SERPINE1, SIL1A4, SLCO26A6, SLCO7A5, SLFN11, SP140, SUMO1, SYVN1, TAF9, TANK, TDP2, TLR1, TIMEB39A, TNFRSF4, TRIB1, TRIB3, TRIM6, UBAA5, UBE2T, UFD1L, USP18, VWF, WFS1, WIP1, XCR1
IRE1-mediated unfolded protein response	13	7.12E-09	ASNA1, DNABJ11, DNABJ9, FKBP14, GFP11, HSPA5, HYOU1, PDIA5, PDIA6, SEC31A, SYVN1, WFS1, WIP1
ERAD pathway	13	1.29E-08	DERL2, DNABJ9, DNAC10, HSP90B1, HSPA6, NPL, OCA, PSMC6, SDF2L1, SEL1L, SYVN1, UFD1L, WFS1
ER-associated ubiquitin-dependent protein catabolic process	12	8.06E-08	DERL2, DNABJ9, DNAC10, HSP90B1, HSPA6, NPL, OCA, PSMC6, SDF2L1, SEL1L, SYVN1, UFD1L, WFS1
PERK-mediated unfolded protein response	7	1.71E-07	ASNS, ATF3, ATF4, DDIT3, EIF2AK3, HSP90B1, HSPA5
ER-nucleus signaling pathway	9	7.66E-07	ASNS, ATF3, ATF4, ATF2A2, CALR, HSP90B1, HSP90B1, PPP1R15B, WFS1
retrograde protein transport, ER to cytosol	7	1.10E-06	DERL2, HSP90B1, HSP90B1, NPL, OCA, SEL1L, SYVN1, UFD1L
cellular protein metabolic process	90	1.10E-06	ALG13, ALK, APPASNA1, ASNS, ATF3, ATF4, ATXN3, B3GNT5, C12orf65, CALR, CARS, CTR9, DDIT3, DERL2, DNABJ4, DNABJ5, DNABJ9, DNAC10, DTX3L, DUSP6, DYRK2, EEF1B2, EXT1, FICD, FKBP1, FKBP14, FKBP2, FKBP4, FKBP5, GADD45G, GP1, GFP11, GMPFB, HSP90B1, HSPA5, HSPH1, HTRA2, HYOU1, IRAK2, LYPLA1, MATK, MED21, MERIK, MLEC, MTR4, NPL, OCA, OSTC, PDIA4, PDIA5, PDIA6, PELI1, PFDN2, PGM3, PIGA, PIM2, PPIG, PPL1, PPP1CB, PRPF48, PSMC6, RNF198, ROCK1, RPLP1, RPN1, SDF2L1, SEC24D, SEC31A, SEL1L, SELT, SIL1, STREGALNAC4, SUMO1, SYVN1, TAF9, TARS, TCARS, TOP1, TOPORS, TRIB1, TRIB3, TRIM6, TUBA3D, TUBB3, UAP1, UBAA5, UBE2T, UBXN1, UFD1L, USP18, VWF, WFS1, WIP1
protein N-linked glycosylation via asparagine	14	6.66E-06	ALG13, CALR, GFP11, GMPFB, MLEC, OSTC, PGM3, PRKCSH, RPN1, SEC24D, SEC31A, STREGALNAC4, SYVN1, UAP1
protein N-linked glycosylation	13	8.95E-05	ALG13, CALR, GFP11, GMPFB, MLEC, OSTC, PGM3, RPN1, SEC24D, SEC31A, STREGALNAC4, SYVN1, UAP1
ER overload response	5	0.000117	DDIT3, EIF2AK3, HSPA5, PPP1R15B, WFS1
chaperone-mediated protein folding	8	0.000155	CALR, FKBP11, FKBP14, FKBP2, FKBP4, FKBP5, HSPH1, PDIA4
proteasome-mediated ubiquitin-dependent protein catabolic process	18	0.000432	ATXN3, DDIT3, DERL2, DNABJ9, DNAC10, HSP90B1, HSPA5, NPL, OCA, PPP2C, PSMC6, SDF2L1, SEL1L, SYVN1, TOPORS, UBXN1, UFD1L, USP18, WFS1
protein metabolic process	91	0.000448	ALG13, ALK, APPASNA1, ASNS, ATF3, ATF4, B3GNT5, C12orf65, CALR, CARS, CTR9, DDIT3, DERL2, DNABJ4, DNABJ5, DNABJ9, DNAC10, DTX3L, DUSP6, DYRK2, EEF1B2, EXT1, FICD, FKBP11, FKBP14, FKBP2, FKBP4, FKBP5, GADD45G, GP1, GFP11, GMPFB, HSP90B1, HSPA5, HSPH1, HTRA2, HYOU1, IRAK2, LYPLA1, MATK, MED21, MERIK, MLEC, MTR4, NPL, OCA, OSTC, PDIA4, PDIA5, PDIA6, PELI1, PFDN2, PGM3, PIGA, PIM2, PPIG, PPL1, PPP1CB, PRPF48, PSMC6, RNF198, ROCK1, RPLP1, RPN1, SDF2L1, SEC24D, SEC31A, SEL1L, SELT, SIL1, STREGALNAC4, SUMO1, SYVN1, TAF9, TARS, TCARS, TCARS, TOPORS, TRIB1, TRIB3, TRIM6, TUBA3D, TUBB3, UAP1, UBAA5, UBE2T, UBXN1, UFD1L, USP18, VWF, WFS1, WIP1
protein peptidyl-prolyl isomerization	7	0.000938	FKBP11, FKBP14, FKBP2, FKBP4, FKBP5, PPIG, PPL1

transport	80	0.001	ABAT, ADA, ALDH5A1, ANP32A, APPASNA1, ATP1B1, ATP2A2, CALR, CD163, CD396, CLC2, CTNNB1, CTNS, CYB5B1, CYP27B1, DDIT3, DERL2, DYNLC1L1, FABP5, FKBP4, G3BP1, GABARAPL2, HABP4, HERPUD1, HIA1T1, HSP90B1, HSP91, HYOU1, KNNK6, KIAA1033, KIAA1279, LINC01475, MERTK, MFS1D2, NFKBIA, NPLOC4, PDIA4, PNP, RNF198, RPLP1, RPN1, RTIP4, SARI1A, SEC11C, SEC31A, SEL1L, SELK, SELT, SERPINE1, SIL1, SLIC1047, SLIC17A9, SLIC1A4, SLIC1A5, SLIC22A16, SLIC26A6, SLIC35B1, SLIC39A14, SLIC3A2, SLIC7A1, SLIC7A5, SPOCS2, SPOCS3, SRSF11, SRSF3, SYVN1, TCP1, TMED7, TMEM38B, TOB1, TRAM2, UFD1L, UQCCH1, VPS28A, WFS1, WIP1, XCR1
nucleotide-sugar biosynthetic process	5	0.00117	GFP1T1, GMPPB, PGM3, UAP1, UGDH
protein folding in endoplasmic reticulum	4	0.00129	CALR, DNAC10, HSP90B1, HSPA5
cell redox homeostasis	8	0.00175	DDIT3, DNAC10, ERO1L1B, GCLC, PDIA4, PDIA5, PDIA6, SELT
ATF6-mediated unfolded protein response	4	0.00214	CALR, DDIT3, HSP90B1, HSPA5
negative regulation of sequence-specific DNA binding transcription factor activity	11	0.00261	DDIT3, ID2, IRAK2, KLF4, NFKBIA, PEL1, SUMO1, TNFRSF4, TRIB1, WFS1, ZC3H12A
intrinsic apoptotic signaling pathway in response to endoplasmic reticulum stress	6	0.00261	ATF4, DDIT3, DNAC10, EIF2AK3, SELK, TRIB3
peptidyl-amino acid modification	30	0.00292	ALG13, ALK, CALR, CTR9, DYRK2, EIF2AK3, FKBP11, FKBP14, FKBP2, FKBP4, FKBP5, GFP1T1, GMPPB, MATIK, MERTK, MLEC, OSTC, PGM3, PPI1, PRKCSH, RPN1, SEC24D, SEC31A, ST6GALN
cellular amino acid biosynthetic process	8	0.00499	ABAT, ADI1, ASNS, DPYD, GPT2, MTHFD2, PSAT1, UBP1
positive regulation of transcription from RNA polymerase II promoter in response to endoplasmic reticulum stress	4	0.00605	ATF3, ATF4, DDIT3, HSPA5
single-organism carbohydrate metabolic process	23	0.00637	ALDH5A1, ATF3, ATF4, B3GNT5, CALR, EXT1, FABP5, GCLC, GFP1T1, GMPPB, GOT1, MLEC, OSTC, PC, PGM3, PPP1CB, RPN1, SEC24D, SEC31A, ST6GALNAC4, SYVN1, UAP1, UGDH
positive regulation of proteasomal protein catabolic process	8	0.00679	ATXN3, GCLC, HERPUD1, PSMC6, SUMO1, TRIB1, TRIB3, ZFAND2A
ubiquitin-dependent protein catabolic process	19	0.00715	ATXN3, DDIT3, DERL2, DNAB, DNAB9, DNAC10, HERPUD1, HSP90B1, HSPA5, NPLOC4, PPP2CB, PSMC6, SDF2L1, SEL1L, SYVN1, TOPORS, UBXN1, UFD1L, USP18, WFS1
UDP-N-acetylglucosamine biosynthetic process	3	0.00768	GFP1T1, PGM3, UAP1
protein glycosylation	15	0.00911	ALG13, B3GNT5, CALR, EXT1, GFP1T1, GMPPB, MLEC, OSTC, PGM3, RPN1, SEC24D, SEC31A, ST6GALNAC4, SYVN1, UAP1
regulation of binding	14	0.00999	APP, CCL23, CLIC2, DDIT3, EIF2AK3, HABP4, HERPUD1, HMGB1, HSPA5, ID2, NFKBIA, ROCK1, SUMO1, TRIB3
regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling pathway	5	0.0105	DDIT3, HERPUD1, HYOU1, SYVN1, WFS1
cellular protein catabolic process	20	0.0131	ATXN3, DDIT3, DERL2, DNAB, DNAB9, DNAC10, HERPUD1, HSP90B1, HSPA5, HTRA2, NPLOC4, PPP2CB, PSMC6, SDF2L1, SEL1L, SYVN1, TOPORS, UBXN1, UFD1L, USP18, WFS1
positive regulation of proteasomal ubiquitin-dependent protein catabolic process	7	0.0163	ATXN3, GCLC, HERPUD1, SUMO1, TRIB1, TRIB3, ZFAND2A
negative regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling pathway	4	0.0163	HERPUD1, HYOU1, SYVN1, WFS1
negative regulation of response to endoplasmic reticulum stress	5	0.0163	DERL2, HERPUD1, HYOU1, PPP1R15B, SYVN1
protein transport	35	0.0171	ATP1B1, CALR, CD36, DERL2, EIF2AK3, GABARAPL2, HERPUD1, HSP90B1, KIAA1033, LINC01475, MERTK, MFS1D2, NFKBIA, NPLOC4, PDIA4, PNP, RNF198, RPLP1, RPN1, RTIP4, SARI1A, SEC11C, SEC24D, SEC31A, SEL1L, SELT, SIL1, SPOCS2, SPOCS3, SYVN1, TCP1, TMED7, TOB1, TRAM2, UFD1L, VPS28A, WFS1
positive regulation of protein metabolic process	38	0.0192	ALK, ANK, APP, ATXN3, C1QTNF1, CD276, CD38, CTNNA1, CTR9, EBI3, EIF2AK3, FAM129A, FPR1, GCLC, GDF15, GPR183, HERPUD1, HMGB1, HSPA5, HSPH1, HTRA2, IER3, IRAK2, KLF4, MIPV17L2, NFKBIA, PEL1, PSMC6, RAB18, SUMO1, TLR1, TNFSF10, TOPORS, TRIB1, TRIB3, TRIM6, WFS1, ZFAND2A
endoplasmic reticulum calcium ion homeostasis	4	0.0223	APP, ATP2A2, HERPUD1, WFS1
regulation of proteasomal protein catabolic process	12	0.0246	ATXN3, GABARAPL2, GCLC, HERPUD1, PSMC6, SUMO1, TAF9, TRIB1, TRIB3, UBXN1, USP18, ZFAND2A
post-translational protein modification	15	0.0256	ALG13, B3GNT5, CALR, GFP1T1, GMPPB, MLEC, PGM3, PI3A, PRKCSH, RPN1, SEC24D, SEC31A, ST6GALNAC4, SUMO1, UAP1
protein catabolic process	20	0.0281	ATXN3, DDIT3, DERL2, DNAB, DNAB9, DNAC10, HSP90B1, HSPA5, HTRA2, LYPLA1, NPLOC4, PPP2CB, PSMC6, SDF2L1, SEL1L, SYVN1, TOPORS, UBXN1, UFD1L, USP18, WFS1
glycosylation	14	0.0281	B3GNT5, CALR, EXT1, GFP1T1, GMPPB, MLEC, OSTC, PGM3, RPN1, SEC24D, SEC31A, ST6GALNAC4, SYVN1, UAP1

regulation of protein metabolic process	56	0.0285	AARS, ALK, ANG, ATF3, ATXN3, BANP, C1, OTNF1, CALR, CD36, CTNNB1, CTRF9, DDT4, DERL2, DNALC10, DUSP6, EB13, EIF2AK3, FAM129A, FPR1, GABARAPL2, GCLC, GDF15, GPR183, HMOGB1, HSP90B1, HSPA5, HSPH1, HTRA2, IER3, IRAK2, KLF4, MPV17L2, NFKBIA, PELL1, PPP1CB, PPP1R15B, PSMC6, RAP1B, RGS2, SELT, SERPINE1, SPOCD1, SUMO1, TAF9, TLR1, TNFRSF4, TNFSF10, TOB1, TOPORS, TRIB1, TRIB3, TRIM5, UBXN1, USP18, WFS1, ZFAND2A
regulation of ATF6-mediated unfolded protein response	2	0.0289	HSPA5, WFS1
negative regulation of protein metabolic process	30	0.0295	ANG, APP, ATF3, BANP, CALR, CD276, CTNNB1, DDT4, DERL2, DNALC10, DUSP6, EIF2AK3, FAM129A, GABARAPL2, GCLC, HERPUD1, HRS, HSP12, HSPH1, KLF4, PPP1R15B, PSMC6, RGS2, SERPINE1, SPOCD1, TAF9, TNFSF10, TOB1, TRIB1, TRIB3, UBXN1
protein maturation by protein folding	3	0.032	CALR, ERO1L, WFS1
glycoprotein biosynthetic process	15	0.0333	ALG13, B3GNT5, CALR, EXT1, GPPPT1, GMPPB, MLEC, OSTC, PGM3, RPN1, SEC24D, SEC31A, ST6GALNAC4, SYVN1, UAP1
regulation of proteasomal ubiquitin-dependent protein catabolic process	9	0.0333	ATXN3, GCLC, HERPUD1, SUMO1, TAF9, TRIB1, TRIB3, UBXN1, ZFAND2A
Intracellular protein transport	23	0.0485	ATP1B1, CALR, DERL2, HERPUD1, HSP90B1, KPNA2, NFKBIA, NPLQC4, RPLP1, RPN1, RTP4, SAR1A, SEC11C, SEC24D, SEL1L, SIL1, SPCS2, SPCS3, SYVN1, TOB1, UFD1L, VPS26A, WFS1

Supplemental Table 4B. Inflammation-associated STRING-DB networks responding to MON-DNJ

Pathway	Count	FDR	Targets
toll-like receptor signaling pathway	9	0.0168	CD36,DUSP6,HSP90B1,IRAK2,NFKBIA,PEL1,PIK3AP1,TANK,TLR1
B cell activation involved in immune response	5	0.0179	ADA,BATF,GPR183,LIG4,MSH2
response to molecule of bacterial origin	14	0.0187	ACPF5,ANKRD1,CD36,CTR9,CYP27B1,IRAK2,NFKBIA,PDE4B,PEL1,PTGES,SERPINE1,TLR1,TRIB1,ZC3H12A
immune response	36	0.0248	ADA,APP,BATF,CAPZA1,CCL23,CCL4L2,CD164,CD276,CD36,CTNNB1,CYP27B1,DUSP6,EBI3,GPR183,HMGB1,HSP90B1,IRAK2,LIG4,LY75,MATK,MSH2,NFKBIA,PEL1,PNP,PRKCSH,PSMC6,RNF19B,SLC26A6,SUMO1,TANK,TLR1,TNFRSF4,TNFSF10,TRIB3,TRIM5,USP18
positive regulation of B cell proliferation	5	0.0289	ADA,CD38,GPR183,PEL1,TNFRSF4
positive regulation of lymphocyte proliferation	8	0.0289	ADA,CD276,CD38,EBI3,GPR183,PEL1,PNP,TNFRSF4
cellular response to molecule of bacterial origin	9	0.0289	ANKRD1,CD36,CTR9,IRAK2,NFKBIA,PDE4B,SERPINE1,TLR1,ZC3H12A
immune system process	48	0.0292	APP,ATP1B1,BATF,CALR,CAPZA1,CCL23,CCL4L2,CD164,CD276,CD38,CYP27B1,DDIT4,DUSP6,GPR183,HMGB1,HSP90B1,ID2,IRAK2,KLF4,LIG4,LY75,MATK,MSH2,MT1G,PDE4B,PEL1,PGM3,PIK3AP1,PNP,PRKCSH,PSMC6,RNF19B,ROCK1,SEC24D,SEC31A,SLAMF1,SLC26A6,SLC3A2,SLC7A5,SLFN11,SUMO1,TANK,TMEM91,TNFRSF4,TNFSF10,TRIB3,TRIM5,USP18
response to lipopolysaccharide	13	0.0315	ACPF5,ANKRD1,CD36,CTR9,CYP27B1,IRAK2,NFKBIA,PDE4B,PEL1,PTGES,SERPINE1,TRIB1,ZC3H12A

Supplemental Table 4C. Cell fate-associated STRING-DB networks responding to MON-DNU

Pathway	Count	FDR	Targets
intrinsic apoptotic signaling pathway	12	0.00255	ATF4,BCL2A1,DDIT3,DDIT4,DNAJC10,DYRK2,EIF2AK3,HTRA2,IER3,MSH2,SELK,TRIB3
intrinsic apoptotic signaling pathway in response to endoplasmic reticulum stress	6	0.00261	ATF4,DDIT3,DNAJC10,EIF2AK3,SELK,TRIB3
regulation of apoptotic process	41	0.00262	AARS,ADA,ALK,ANKRD1,ASNS,ATF3,ATF4,BCL2A1,BEX2,CALR,CAST,CD38,CTNNB1,DDIT3,DUSP6,GDF15,HMGB1,HSP90B1,HSPA5,HSPH1,HTRA2,KLF4,LIG4,MERTK,MSH2,NFKBIA,PIM2,PPP1CB,PSMC6,RAD9A,ROCK1,SDF2L1,SERPINE1,SYVN1,TAFA9,TCF1,TNFRSF4,TNFSF10,TOPORS,TRAF1,WFS1
regulation of cell death	42	0.00471	AARS,ADA,ALK,ANKRD1,ASNS,ATF3,ATF4,BCL2A1,BEX2,CALR,CAST,CD38,CTNNB1,DDIT3,DDIT4,DUSP6,GDF15,HMGB1,HSP90B1,HSPA5,HSPH1,HTRA2,KLF4,LIG4,MERTK,MSH2,NFKBIA,PIM2,PPP1CB,PSMC6,RAD9A,ROCK1,SDF2L1,SERPINE1,SYVN1,TAFA9,TCF1,TNFRSF4,TNFSF10,TOPORS,TRAF1,WFS1
programmed cell death	33	0.0101	ALOX15B,APP,ATF4,BCL2A1,BEX2,C1D,CD38,CTNNB1,DDIT3,DDIT4,DNAJC10,DYRK2,GCLC,HERPUD1,HMGB1,HTRA2,KLF4,MSH2,NFKBIA,PIM2,PPP2C8,PSMC6,ROCK1,RTKN,SELK,SEMA3A,TNFRSF4,TNFRSF9,TNFSF10,TRAF1,TRIB3,ZC3H12A
regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling pathway	5	0.0105	DDIT3,HERPUD1,HYOU1,SYVN1,WFS1
regulation of apoptotic signaling pathway	17	0.0137	ATF3,BCL2A1,CTNNB1,DDIT3,GCLC,HERPUD1,HSPH1,HTRA2,IER3,PPP1CB,RAD9A,SERPINE1,SYVN1,TAFA9,TNFSF10,TRAF1,WFS1
positive regulation of proteasomal ubiquitin-dependent protein catabolic process	7	0.0163	ATXN3,GCLC,HERPUD1,SUMO1,TRIB1,TRIB3,ZFAND2A
negative regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling pathway	4	0.0163	HERPUD1,HYOU1,SYVN1,WFS1
apoptotic process	32	0.0171	ALOX15B,APP,ATF4,BCL2A1,BEX2,C1D,CD38,CTNNB1,DDIT3,DDIT4,DNAJC10,DYRK2,GCLC,HERPUD1,HMGB1,HTRA2,KLF4,LIG4,MSH2,NFKBIA,PIM2,PPP2C8,PSMC6,ROCK1,RTKN,SELK,SEMA3A,TNFRSF9,TNFSF10,TRAF1,TRIB3,ZC3H12A
negative regulation of neuron death	10	0.0248	AARS,ATF4,CTNNB1,GCLC,HTRA2,HYOU1,LIG4,MSH2,ROCK1,WFS1
negative regulation of apoptotic signaling pathway	11	0.0304	BCL2A1,CTNNB1,GCLC,HERPUD1,HSPH1,HTRA2,IER3,SERPINE1,SYVN1,TAFA9,WFS1
regulation of neuron death	12	0.0315	AARS,ATF4,CTNNB1,DDIT3,DDIT4,GCLC,HTRA2,HYOU1,LIG4,MSH2,ROCK1,WFS1
negative regulation of apoptotic process	26	0.032	AARS,ADA,ASNS,BCL2A1,CAST,CD38,CTNNB1,EIF2AK3,HSP90B1,HSPA5,HSPH1,HTRA2,KLF4,LIG4,MERTK,MSH2,NFKBIA,PIM2,PSMC6,ROCK1,SERPINE1,SYVN1,TAFA9,TNFSF10,TOPORS,WFS1
negative regulation of cell death	27	0.0398	AARS,ADA,ASNS,ATF4,BCL2A1,CAST,CD38,CTNNB1,EIF2AK3,HSP90B1,HSPA5,HSPH1,HTRA2,KLF4,LIG4,MERTK,MSH2,NFKBIA,PIM2,PSMC6,ROCK1,SERPINE1,SYVN1,TAFA9,TNFSF10,TOPORS,WFS1
regulation of intrinsic apoptotic signaling pathway	9	0.0405	BCL2A1,DDIT3,HERPUD1,HSPH1,HTRA2,RAD9A,SYVN1,TAFA9,WFS1
negative regulation of intrinsic apoptotic signaling pathway	7	0.0486	BCL2A1,HERPUD1,HSPH1,HTRA2,SYVN1,TAFA9,WFS1