

Table S1 ER stress-related genes from GeneCards database

Gene Symbol

HSPA5
EIF2AK3
XBP1
ERN1
ATP2A2
ATF6
TP53
VCP
HERPUD1
SOD1
RYSR2
ATP2A1
HSP90B1
TNF
EIF2S1
PRKN
ATF4
DDIT3
APP
PSEN1
CANX
SYVN1
CALR
DNAJC3
HYOU1
ATP2A3
CAT
INS
SAR1B
NFE2L2
NFE2L1
RYSR1
DNAJC10
ITPR1
CACNA1C
WFS1
PPP1R15A
P4HB
CFTR
PRNP
MAPK8
ERO1A

OS9
DERL2
BCL2
ERP29
SIL1
CLU
SERP1
MAPT
PDIA3
TARDBP
MPO
MAP3K5
H6PD
SERPINA1
HSPA4
CASQ1
ERP44
DERL1
CASP4
EPM2A
CXCL8
CASP3
NHLRC1
BAX
ERAP1
STIM1
DSP
HLA-DRB1
F2
HMOX1
KDELRL1
MIA2
SNCA
IL1B
DERL3
SEC16A
MBTPS2
ERLEC1
SEC23A
AMFR
MANF
SERP2
SEL1L
APOB

ALB
TRDN
HSP90AA1
LMAN1
HSPA1A
CDKN3
ERN2
SOD2
PDIA4
POMC
ALG2
SELENOS
CREB3L1
APOE
HSPA8
HSF1
KCNH2
HFE
EIF2AK4
MAPK14
COMT
GFAP
ELN
CYP21A2
KDEL2
SEC23B
BCAP31
CD4
PSEN2
MAN1B1
EDN1
DMD
DRD5
SEC13
ERAP2
ATF6B
RPS27A
BAG6
SPP1
DNAJB9
COMP
JUP
ANK2
CREB3

MOGS
SLC26A2
SEC61A1
CR2
CYCS
SNAP25
MAPK1
SERPINH1
SCN5A
JUN
EDNRA
PDIA2
SAR1A
DNAJB11
F9
DNAJB1
TXNDC12
SCN2A
NOS3
CISD2
EDEM1
GLA
SLC6A4
SEC24C
ERO1B
SELENOK
PTPN1
SEC24B
PLN
HTT
SP1
EIF2AK2
GJB2
MTTP
UBC
FOS
CASP8
RTN4
CREB3L2
SIRT1
CRH
KCNJ11
CASP9
CREB3L3

TXNDC5
VAPB
PARK7
ERP27
TOR1A
RTN3
SIGMAR1
PARP1
IL6
UBQLN1
DSC2
LMNA
TH
SERPINA3
RPN1
LRRK2
TF
INPP5K
APOA1
RER1
UGGT1
TXN
ORAI1
CSTB
CHERP
MAPK10
BAK1
GJA1
PPP1R15B
AKT1
C1S
SEC31A
PTGS2
PIIB
MTOR
LGI4
GSR
ALG1
DPM1
KCNE1
DNAH8
TRAF2
CIB1
AVP

VEGFA
DDOST
SESN2
C1R
IL7
LMAN2
ATF3
SSR4
HMGCR
NOS2
IGF2R
ESYT1
UBE2J1
TFRC
LNPK
HSPB1
TRPV4
COL2A1
VWF
RNF185
HP
IAPP
SERPINC1
BDNF
NOX4
HSD11B1
ITPR3
TMBIM6
SEC62
EBP
TAP1
GATA1
XDH
CTNNB1
SEC61B
SELENON
ITPR2
CASP12
TAPBP
CKAP4
CLN3
CNGA3
SLC8A1
THBS1

BNIP1
EGFR
SQSTM1
LPL
STUB1
HSPA1B
NR3C1
RPN2
AKAP9
CACNA1S
MYH7
TGFB1
NNT
ADIPOQ
BCL2L1
ACP1
CST3
SURF4
PON1
MBTPS1
NFKB1
ABL1
CCL2
STING1
BBC3
CASQ2
CRYAB
SEC63
ERLIN2
ELANE
IGF2BP2
MAPK9
VIM
TNFRSF10B
HLA-B
INSIG1
BACE1
CEBPB
PDCD6
RRBP1
CANT1
MAP2
ERMP1
UGGT2

TRIM13
VCL
BRSK2
CYBA
CRYAA
GBF1
JPH2
TRIP11
HSPA9
PDIA6
ADAM10
DYSF
SREBF1
TRPC1
KEAP1
TLR4
CYP2E1
SGK1
HSD11B2
PPARG
TMEM33
UBB
PMM2
RTN1
ESR1
FAF2
GET3
HSP90AB1
UBE2G2
G6PC
PRKAA1
EGF
CAV1
RAB1B
BGLAP
CALM1
RAB1A
ATP2C1
EDEM3
MAPK3
CRP
ADAMTSL1
PLOD2
CD40

ENO2
PIK3R1
SOAT1
SREBF2
GSK3B
HSPD1
MAP1LC3A
DDRGK1
VAPA
IFNG
COL1A1
SLN
ALG13
CXCR4
EDEM2
CASP7
TUSC3
PNKD
IER3IP1
KCNQ1
LDLR
FKBP14
AIFM1
IL10
HIF1A
PRDX4
ALG3
BMP2
GAPDH
ALG11
FGFR3
NCK1
BCL2L11
CDKN1A
CYBB
ERGIC3
HLA-A
FICD
POR
ATM
APEX1
VCAM1
NQO1
PTPN11

PCSK9
SLC37A4
TRAPPC2
MAP2K7
CPT2
BOK
COL1A2
DNAJB12
BECN1
RECK
TOMM40
SRC
GPR37
SERPINI1
G6PD
COPB1
PKP2
PRL
SEC61G
UBE2D2
ABCC8
ERLIN1
TEX264
STT3A
DNM1L
NLRP3
UBE2D3
TMEM43
RUNX2
RHOA
UBE2J2
ARL6IP1
NUPR1
TXNIP
TNFSF11
PPARA
GABARAPL1
TRPM4
TRAM1
SRPRA
LIPC
STAU1
FKRP
TMEM208

UFL1
STX17
TYR
MAP1LC3B
CLCN1
CRHR1
RNF139
TCF7L2
VKORC1
HSPA6
CAPN2
RB1
GANAB
NPPB
DCN
NR3C2
OSBP
UFD1
NOTCH1
TMED10
HLA-DRB3
IGF1
TAP2
TMED9
FAS
MDM2
BSG
TMED4
RNF5
DHCR24
CCR6
FOXO1
USO1
AGR2
ITIH4
TRPC4
CD8A
LEP
TIA1
SCAP
ZFAND2B
OSBPL8
TMED2
MAN2A1

UBQLN2
NPLOC4
RNF186
KTN1
PRKAA2
FABP1
C9orf72
CP
TMX1
ARSA
CALHM1
CUL1
G3BP1
GCG
MATN3
TMEM214
RAB6A
RAC1
CCDC47
TMTC3
ACTC1
CASP2
ORMDL3
RNFT1
GPT
PON2
HMGB1
MGAT5
SSR2
JPH4
UFM1
PTGS1
TRIB3
ASPH
MYOC
CREB1
PIK3CG
HTRA2
TFG
ANXA5
GABARAP
ARSG
ITGB1
MAN1A1

PRKCD
AGER
CYP1A1
INSR
PPARGC1A
SCAMP5
STAT3
TTN
NPY
TG
TMCO1
FOXO3
DNAJA1
PIEZO1
BAG1
RPSA
KNG1
RYSR
TOR1B
SSR1
ADRB2
NOS1
IREB2
P4HTM
AGR3
CDIPT
SRP68
CCDC88B
CERT1
LRP5
NGF
RAB10
TLR9
SHH
MMP9
UGT1A1
PINK1
ERGIC2
SERPINA7
YKT6
SEC22B
SGPP1
MGST1
RBX1

STARD3
CD36
ESYT2
GBA
SCG5
KDR
SCD
TERT
PKD2
CREBRF
GSTM1
GPX1
RHBDD1
TGM2
UBE4B
DSG2
STX18
COL9A1
MARCHF6
FKBP10
UBA52
UBE2D1
WNT1
CDK1
DES
HSPA1L
ACAN
ATXN3
ACE
JPH3
UBQLN4
ARSH
FBXO6
FUS
GUSB
PML
AGTR1
SEC23IP
TTR
AUP1
NGLY1
PRKCSH
IVL
UBXN4

JKAMP
HSPA2
TNFSF10
GET4
HSD17B10
DAB2IP
UBL4A
BSCL2
GSTP1
MFN2
UBE2K
CAMK2G
TMEM117
GOSR1
OPA3
SCN4A
GOLGA2
MYC
CYB5R3
SVIP
NLRP1
ZDHHC6
EEF2
TMEM259
TNFRSF1A
CDK5
DSPP
EEF1A1
NSFL1C
F8
TMX3
OXT
SLC2A1
EIF2AK1
ICAM1
CACNB4
CDKAL1
FMR1
FURIN
PLA2G6
COPA
PTGIS
MAPKAPK2
SSR3

TFEB
CYP1A2
DUSP19
DNAJB2
HLA-DRA
HSPH1
TMCC1
PSMD2
DHCR7
DPM2
TGFB3
APAF1
CALR3
COL9A2
MYH6
CAPN1
PRDX1
GORASP2
NOTCH3
SEC31B
AQP11
ICMT
MCL1
SKP1
SOX9
FLNB
JPH1
EGR1
SDF2L1
ECPAS
CCND1
CDH2
FASLG
YOD1
MAP2K1
PRKCA
ALOX15
EPO
SGTA
TLR2
GOLPH3
RSAD2
GP6
TTPA

CPQ
KPNB1
EIF4E
PPP1CA
FOXRED2
KRT14
UBXN8
CTSD
HM13
PKD1
DSG3
COL9A3
PRDM10
APOA4
FKBP5
MATN1
PTH
ELAVL1
M6PR
SERPINA2
AIF1
MT-TK
SFTPC
TPP1
USP19
ATXN2
CDC42
GPER1
PRDX5
U2AF1
PXN
SHISA5
BRCA1
SHC1
HEXA
OSBPL3
COL10A1
QDPR
SET
BET1
CES1
LPIN1
RAB2A
SCFD1

EMD
NPC1
STBD1
UBE2G1
CYB5A
MAPK8IP1
SELENOF
CYB5R4
DMPK
SPAST
CTSK
G6PC3
VDAC1
FPR2
SERPINE1
COG7
SGPP2
CAV3
DPAGT1
RCN1
CTSB
NCK2
PTK2
SEC11A
SRPRB
PSMA5
STIP1
CLGN
PTEN
ZC3H12A
HSD17B12
RCN2
AFP
UBAC2
FN1
RELA
MMP2
PIGN
TMED7

Table S2 Differential genes of CD4+ T cells

Gene Symbol

TNFRSF25
RCAN3
RSRP1
CD2
FAM46C
RPS27
PBXIP1
SLAMF1
BTG2
SRSF7
EML4
ZFP36L2
RPS27A
DUSP2
CXCR4
CD28
CTLA4
ICOS
TUBA4A
OXNAD1
TRAT1
CD96
GPR171
IL7R
CAMK4
IRF1
TCF7
ITK
TNF
LTB
PRDM1
THEMIS
RPS12
STK17A
AC016831.7
RP11-138A9.1
RP11-138A9.2
LINC-PINT
ZC3HAV1
TRBC1
TRBC2
TSPYL2

TSC22D3
CD40LG
CD6
MALAT1
RPS3
CD3E
CD3D
CD3G
HSPA8
ETS1
KLF6
GATA3
SPOCK2
CLEC2D
CD69
HELB
BTG1
CCDC64
TRAC
RPS29
BCL11B
GOLGA8B
RORA
IL32
FUS
ACAP1
DNAJB1
JUND
PBX4
RPS19
PIK3IP1
LCK
RHOH
CNOT6L
SLC38A1
PTGER4
STK17B
TNFAIP3
FBXO32
NCK2
DDX24
PPP1R15A
SARAF
LEPROTL1

EVL
SOCS1
PPP1R10
RASGRP1
STK4
AC006129.2
GOLGA8A
CD226
CCR7
SLC2A3
IKZF3
RSBN1
BATF
BIRC3
GALM
KIAA1551
RNF19A
DUSP4
PARP8
FYN
RUNX3
DDX3X
STAT4
TTC39C
FAM129A
IL2RG
DDIT4
SFXN1
AC058791.1
AIM1
PPP2R5C
RP11-347P5.1
INTS6
NKTR
GLS
RNF213
LDHA
KLRB1
RGS1
IFNG
TNFRSF4
GPRIN3
EIF4A2
ADAM19

TARSL2
ANKRD36
ANKRD36B
ANKRD12
TNFRSF18
BRD2
SLF1
HSPA1B
BCL2
EZR
PPP1R2
CCND2
GZMK
MZT2A
CITED2
CASP8
XCL1
TOB1
NABP1
UGP2
IKZF1
AMD1
HNRNPH1
OASL
FNBP1
AAK1
PDE3B
RP11-596C23.2
MIR155HG
ANKRD36C
IDS
GBP5
GABPB1-AS1
HECA
AP000769.1
DUSP5
PDCD4
G3BP2
PCSK7
IL2RA
HEXIM1
CYLD
NAP1L4
MDFIC

NOP58
LPIN2
UBE2S
XIST
MAF
ANKRD28
NR3C1
SPTY2D1
SLC5A3
PLK3
NEU1