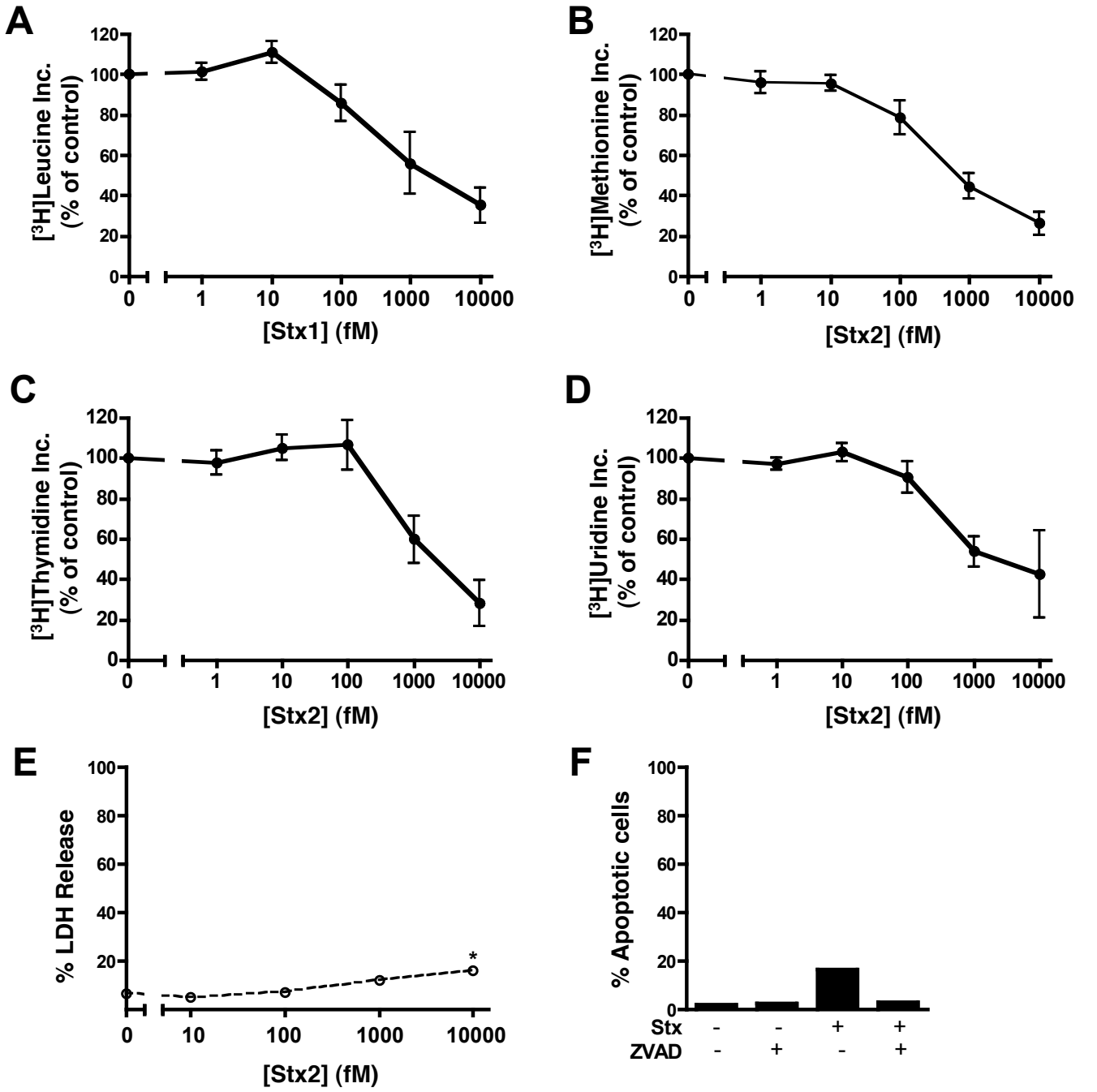
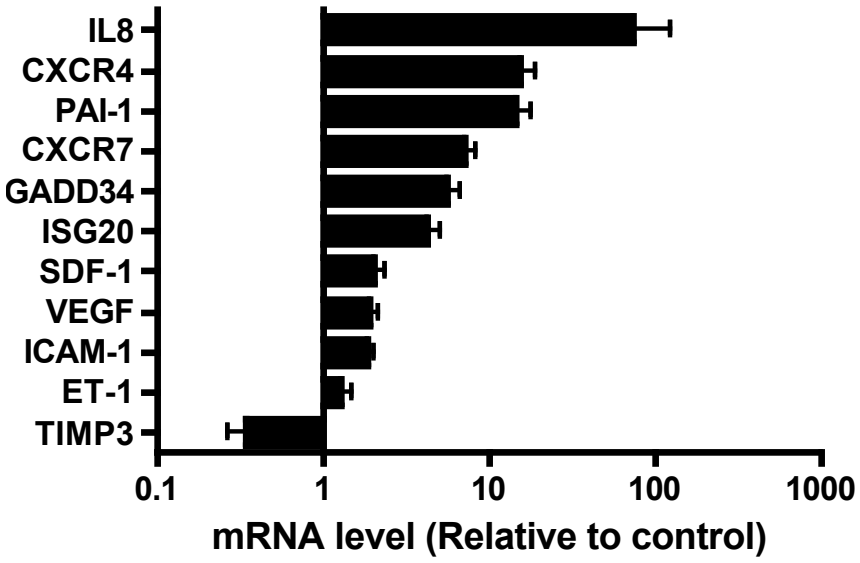
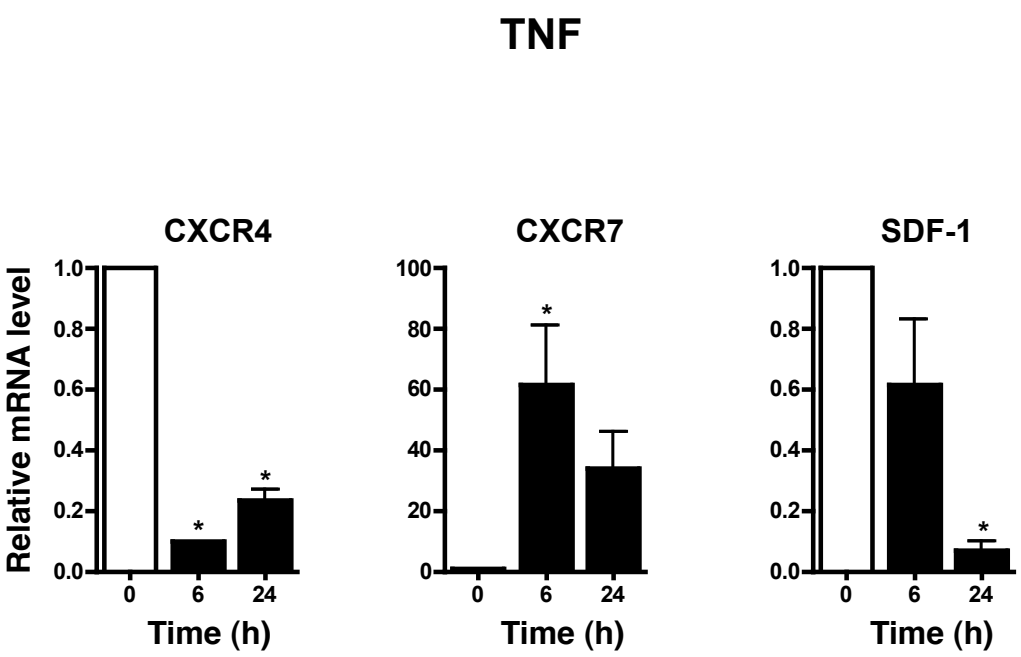


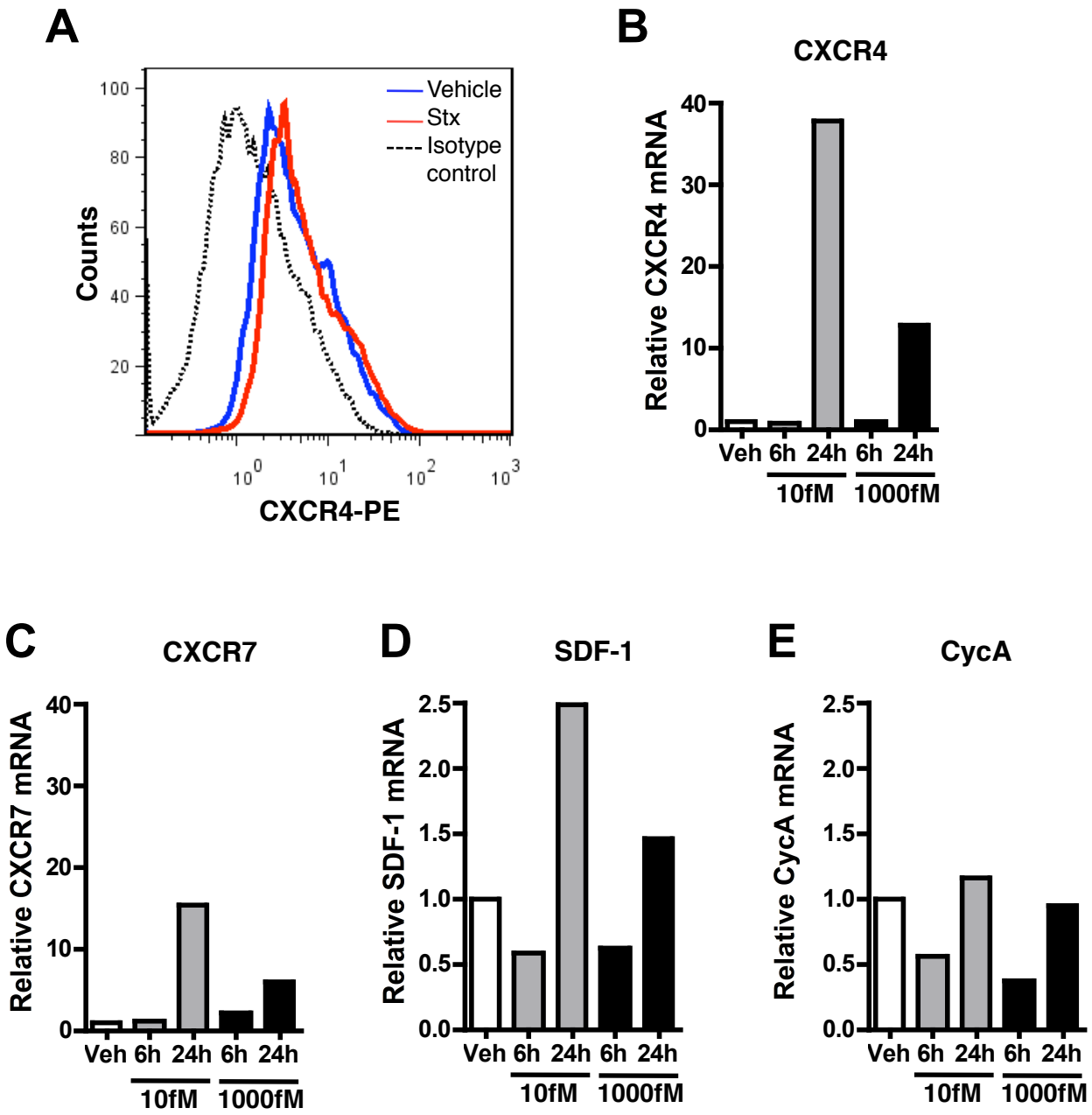
Supplementary Figure 1: Effects of Shiga toxins on endothelial cell metabolism and survival. (A) HMVEC were treated with vehicle or the indicated concentrations of Stx1 for 24 h. One hour before harvest, cells were labeled with 1 μCi [^{3}H]leucine to assess de novo protein synthesis. **(B)** HMVEC were treated with the indicated concentrations of Stx2 for 24 h. One hour before harvest, cells were labeled with 1 μCi [^{3}H]methionine as an alternate measure of protein synthesis. A representative experiment is shown. **(C & D)** HMVEC were treated with the Stx2 for 24 h and labeled with **(C)** [^{3}H]thymidine or **(D)** [^{3}H]uridine to assess DNA and RNA synthesis, respectively. Shown are the means ± SEM of at least 3 experiments, triplicate determinations, unless otherwise stated. **(E)** HMVEC were treated with the indicated concentrations of Stx for 24 h, and cell membrane integrity was assessed by LDH release. % LDH release was calculated as a percentage of the completely lysed positive control. *$p < 0.05$ **(F)** HMVEC were stained with Annexin V to determine the level of apoptosis following 24 h treatment with 1000fM Stx, in the presence or absence of the apoptosis inhibitor, ZVAD. A representative experiment is shown.



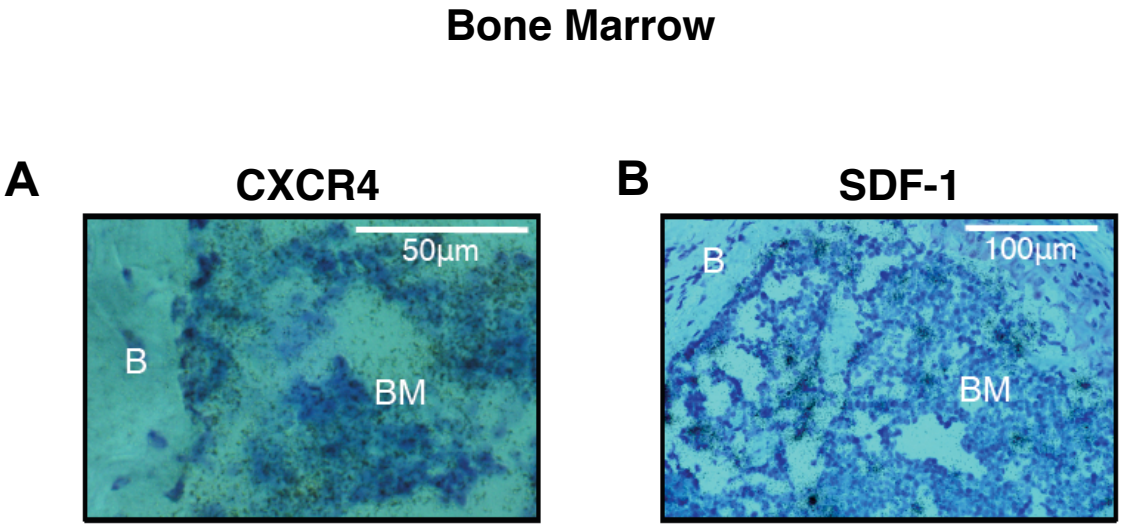
Supplementary Figure 2: Validation of microarray results. Microarray results were independently confirmed by qRT-PCR for a subset of 11 genes. Genes among the highest and lowest absolute fold-changes were studied, as were both up- and down-regulated genes. Note that ET-1 did not exhibit increased expression in the microarrays, nor by qRT-PCR under these treatment conditions (10 fM Stx2, 24 h). Shown are the means ± SEM of at least 3 experiments.



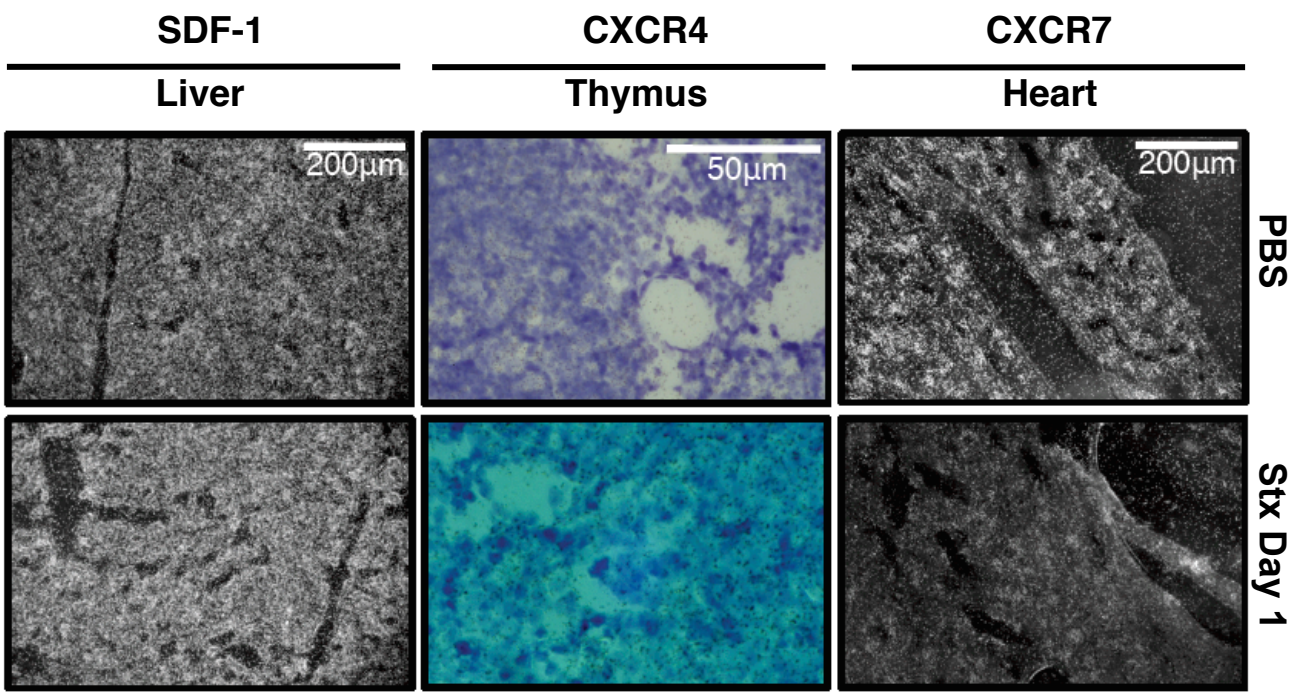
Supplementary Figure 3: Shiga toxins have unique effects on the CXCR4/CXCR7/SDF-1 pathway compared to other classic endothelial stimuli. HMVEC were treated with TNFα (10 ng/ml) for 6 h or 24 h, followed by qRT-PCR to determine its effects on this pathway. Data are normalized to GAPDH and 18S and shown relative to vehicle-treated cells. The mean ± SEM of 4 independent experiments is shown. * $p < 0.05$ vs vehicle



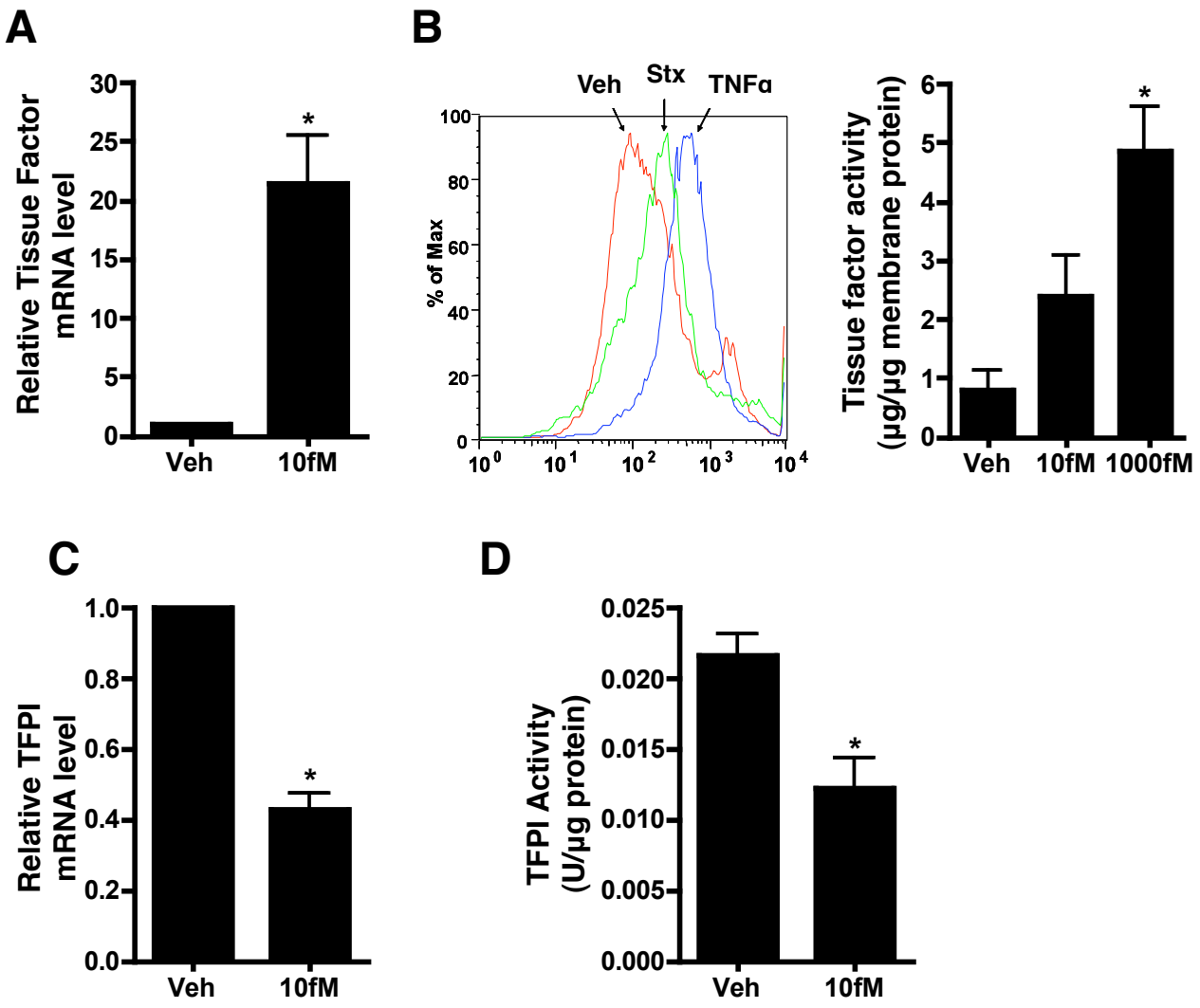
Supplementary Figure 4: Effect of Shiga toxin on CXCR4 protein expression and steady-state mRNA levels in polyribosome studies. (A) HMVEC were treated with 10 fM Stx for 48 h and CXCR4 was detected by flow cytometry. HMVEC were treated with the indicated concentrations of Stx for 6 h or 24 h. mRNA levels **(B)** CXCR4, **(C)** CXCR7, **(D)** SDF-1 and **(E)** cyclophilin A were quantitated by qRT-PCR and normalized to 18S. A representative experiment is shown.



Supplementary Figure 5: In vivo CXCR4 and SDF-1 bone marrow expression. mRNA in situ hybridizations were performed on CAST/Ei mice treated with PBS or Stx. ^{35}S-labelled antisense riboprobes were used to detect **(A)** CXCR4 and **(B)** SDF-1 transcripts.



Supplementary Figure 6: Shiga toxin challenge causes dysregulation of the CXCR4/CXCR7/ SDF-1 axis in vivo. (A) cRNA in situ hybridizations were performed using ^{35}S-labelled antisense riboprobes for SDF-1, CXCR4, and CXCR7. By 24 h after Stx injection (2400 pg/g) , SDF-1 production was increased in the liver, CXCR4 expression is up-regulated in the thymus. CXCR7 expression is reduced in the heart.



Supplementary Figure 7: Shiga toxin stimulates increased tissue factor expression and activity and decreased expression and activity of tissue factor pathway inhibitor. (A) Tissue factor mRNA levels were measured in HMVEC treated with Stx using qRT-PCR. **(B)** Tissue factor protein expression was increased on the surface of HMVEC exposed to Stx (1000 fM, 24 h), as determined by flow cytometry (left panel). Tissue factor activity in cell membranes increased in Stx-treated cells (right panel). (C) Stx caused a reduction in TFPI mRNA levels, determined using qRT-PCR. (D) TFPI activity decreased in membrane fractions of HMVEC following Stx exposure. The mean ± SEM is shown from at least 3 independent experiments. * $p < 0.05$ compared to vehicle-treated cells

Supplementary Table 1. Shown is a list of differentially expressed genes in Stx-treated (10 fM, 24 h) vs vehicle-treated cells (n = 6). All genes listed displayed ≥ 2-fold change in expression calculated by at least one of the 13 pre-processing strategies used. Fold changes shown here were calculated using the mmgMOS algorithm.

Gene Symbol	Gene Title	Fold change
LIF	leukemia inhibitory factor (cholinergic differentiation factor)	162.06
IL8	interleukin 8	132.64
STC1	stanniocalcin 1	73.97
STC2	stanniocalcin 2	34.01
ATF3	activating transcription factor 3	25.88
SLC6A15	solute carrier family 6, member 15	25.19
DUSP1	dual specificity phosphatase 1	20.26
RRP12	ribosomal RNA processing 12 homolog (S. cerevisiae)	19.58
CXCR4	**chemokine (C-X-C motif) receptor 4**	**16.50**
DUSP10	dual specificity phosphatase 10	15.87
ISG20	interferon stimulated exonuclease gene 20kDa	10.93
TRAF1	TNF receptor-associated factor 1	9.85
PMAIP1	phorbol-12-myristate-13-acetate-induced protein 1	9.37
FOXF1	forkhead box F1	7.95
SQSTM1	sequestosome 1	7.83
PLK3	polo-like kinase 3 (Drosophila)	7.76
SNF1LK	SNF1-like kinase	7.73
CXCR7	**chemokine (C-X-C motif) receptor 7**	**7.13**
RRAD	Ras-related associated with diabetes	6.86
HDAC9	histone deacetylase 9	6.82
STYK1	serine/threonine/tyrosine kinase 1	6.59
NIP7	nuclear import 7 homolog (S. cerevisiae)	6.51
GDF15	growth differentiation factor 15	6.42
ZFP36	zinc finger protein 36, C3H type, homolog (mouse)	6.37
GAL	galanin	6.17
BIRC3	baculoviral IAP repeat-containing 3	6.03
NR4A2	nuclear receptor subfamily 4, group A, member 2	5.65
MGC5618	hypothetical protein MGC5618	5.62
CREB5	cAMP responsive element binding protein 5	5.29
RND1	Rho family GTPase 1	5.29
FOSL1	FOS-like antigen 1	5.24
KCNN2	potassium intermediate/small conductance calcium-activated channel, subfamily N, member 2	5.17
USP36	ubiquitin specific peptidase 36	5.04
SLC7A11	solute carrier family 7, (cationic amino acid transporter, y+ system) member 11	4.98
KLHL21	kelch-like 21 (Drosophila)	4.93
NR1D1 /// THRA	thyroid hormone receptor, alpha (erythroblastic leukemia viral (v-erb-a) oncogene homolog, avian) /// nuclear receptor subfamily 1, group D, member 1	4.77
TNFRSF12A	tumor necrosis factor receptor superfamily, member 12A	4.75
PAK1IP1	PAK1 interacting protein 1	4.73
PPP1R15A	protein phosphatase 1, regulatory (inhibitor) subunit 15A	4.53
HLX1	H2.0-like homeobox 1 (Drosophila)	4.46
SOD2	superoxide dismutase 2, mitochondrial	4.42
EXOSC2	exosome component 2	4.29
KLF6	Kruppel-like factor 6	4.23
IFRD1	interferon-related developmental regulator 1	4.18
CXCL2	chemokine (C-X-C motif) ligand 2	4.10

HEY1	hairy/enhancer-of-split related with YRPW motif 1	4.01
MMP10	matrix metallopeptidase 10 (stromelysin 2)	3.93
NAV2	neuron navigator 2	3.90
BHLHB2	basic helix-loop-helix domain containing, class B, 2	3.69
DUSP5	dual specificity phosphatase 5	3.67
ISG20L1	interferon stimulated exonuclease gene 20kDa-like 1	3.61
JUN	jun oncogene	3.52
KLF5	Kruppel-like factor 5 (intestinal)	3.51
DDIT3	DNA-damage-inducible transcript 3	3.44
PISD	phosphatidylserine decarboxylase	3.41
KIAA1199	KIAA1199	3.39
CA2	carbonic anhydrase II	3.37
RGS20	regulator of G-protein signalling 20	3.34
PSG4	pregnancy specific beta-1-glycoprotein 4	3.33
H2AFJ	H2A histone family, member J	3.32
PDE3A	phosphodiesterase 3A, cGMP-inhibited	3.31
KIAA0999	KIAA0999 protein	3.30
C3orf52	chromosome 3 open reading frame 52	3.30
HK2	hexokinase 2	3.28
SSTR2	somatostatin receptor 2	3.26
TRIB1	tribbles homolog 1 (Drosophila)	3.25
NUPL1	nucleoporin like 1	3.21
FEM1C	fem-1 homolog c (C. elegans)	3.16
IL4R	interleukin 4 receptor	3.14
PHLDA2	pleckstrin homology-like domain, family A, member 2	3.14
NEDD4L	neural precursor cell expressed, developmentally down-regulated 4-like	3.13
CCNA1	cyclin A1	3.10
PLAUR	plasminogen activator, urokinase receptor	3.09
LOC653390 /// LOC730092 /// RRN3	RRN3 RNA polymerase I transcription factor homolog (S. cerevisiae) /// RRN3 RNA polymerase I transcription factor homolog (S. cerevisiae) pseudogene	3.09
MCL1	myeloid cell leukemia sequence 1 (BCL2-related)	3.08
KIAA0692	KIAA0692	3.06
RASSF1	Ras association (RalGDS/AF-6) domain family 1	3.03
SLC7A5	solute carrier family 7 (cationic amino acid transporter, y+ system), member 5	3.02
HRH1	histamine receptor H1	3.02
ZNF267	zinc finger protein 267	3.00
DUSP8	dual specificity phosphatase 8	2.99
ADFP	adipose differentiation-related protein	2.98
SERPINE1	serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	2.97
ATF4	activating transcription factor 4 (tax-responsive enhancer element B67)	2.89
CITED2	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2	2.88
ODC1	ornithine decarboxylase 1	2.86
ARG2	arginase, type II	2.86
IRS2	insulin receptor substrate 2	2.84
VEGFA	vascular endothelial growth factor A	2.83
PDLIM4	PDZ and LIM domain 4	2.82
OSGIN1	oxidative stress induced growth inhibitor 1	2.76
EGR1	early growth response 1	2.73
ATF5	activating transcription factor 5	2.73
PTGER4	prostaglandin E receptor 4 (subtype EP4)	2.70
PPP1R10	protein phosphatase 1, regulatory (inhibitor) subunit 10	2.69
HIST1H4H	histone cluster 1, H4h	2.69
CYLD	cylindromatosis (turban tumor syndrome)	2.68

IRF8	interferon regulatory factor 8	2.67
SAMD4A	sterile alpha motif domain containing 4A	2.67
TTC4	tetratricopeptide repeat domain 4	2.66
KIAA0701	KIAA0701 protein	2.65
EXOSC4	exosome component 4	2.65
DDX27	DEAD (Asp-Glu-Ala-Asp) box polypeptide 27	2.65
ARMC8	armadillo repeat containing 8	2.60
PEO1	progressive external ophthalmoplegia 1	2.59
HIST1H1C	histone cluster 1, H1c	2.55
LOC441938	similar to Signal-regulatory protein gamma precursor (Signal-regulatory protein beta-2) (SIRP-beta-2) (SIRP-b2) (CD172g antigen)	2.55
FKBP4	FK506 binding protein 4, 59kDa	2.53
FILIP1L	filamin A interacting protein 1-like	2.52
MGC14376	hypothetical protein MGC14376	2.50
N6AMT1	N-6 adenine-specific DNA methyltransferase 1 (putative)	2.48
SLC3A2	solute carrier family 3 (activators of dibasic and neutral amino acid transport), member 2	2.46
SLC6A4	solute carrier family 6 (neurotransmitter transporter, serotonin), member 4	2.44
MYLK	myosin, light chain kinase	2.43
PUS1	pseudouridylate synthase 1	2.42
C13orf15	chromosome 13 open reading frame 15	2.42
C14orf138	chromosome 14 open reading frame 138	2.42
ARSJ	arylsulfatase family, member J	2.41
AKAP2 /// PALM2-AKAP2	A kinase (PRKA) anchor protein 2 /// PALM2-AKAP2 protein	2.40
DKK1	dickkopf homolog 1 (Xenopus laevis)	2.40
SAT1	spermidine/spermine N1-acetyltransferase 1	2.40
THBD	thrombomodulin	2.39
BCL3	B-cell CLL/lymphoma 3	2.39
JUNB	jun B proto-oncogene	2.38
C10orf28	chromosome 10 open reading frame 28	2.38
CDYL	chromodomain protein, Y-like	2.37
SLC16A7	solute carrier family 16, member 7 (monocarboxylic acid transporter 2)	2.37
RRS1	RRS1 ribosome biogenesis regulator homolog (S. cerevisiae)	2.36
ZBTB10	zinc finger and BTB domain containing 10	2.35
SBNO2	strawberry notch homolog 2 (Drosophila)	2.34
PPRC1	peroxisome proliferator-activated receptor gamma, coactivator-related 1	2.32
HSPC111	hypothetical protein HSPC111	2.32
ESM1	endothelial cell-specific molecule 1	2.29
SFRS10	splicing factor, arginine/serine-rich 10 (transformer 2 homolog, Drosophila)	2.29
SPRY1	sprouty homolog 1, antagonist of FGF signaling (Drosophila)	2.29
C13orf27	chromosome 13 open reading frame 27	2.28
FARSA	phenylalanyl-tRNA synthetase, alpha subunit	2.28
DNAJC17	DnaJ (Hsp40) homolog, subfamily C, member 17	2.28
C11orf17 /// NUAK2	chromosome 11 open reading frame 17 /// NUAK family, SNF1-like kinase, 2	2.28
ITPKB	inositol 1,4,5-trisphosphate 3-kinase B	2.27
CHIC2	cysteine-rich hydrophobic domain 2	2.26
TSC22D2	TSC22 domain family, member 2	2.25
MLF1	Myeloid leukemia factor 1	2.25
TSSC4	tumor suppressing subtransferable candidate 4	2.25
C10orf88	chromosome 10 open reading frame 88	2.24
CEP72	centrosomal protein 72kDa	2.24
FCN2	ficolin (collagen/fibrinogen domain containing lectin) 2 (hucolin)	2.23
TACC2	transforming, acidic coiled-coil containing protein 2	2.23

MAFF	v-maf musculoaponeurotic fibrosarcoma oncogene homolog F (avian)	2.23
URB1	URB1 ribosome biogenesis 1 homolog (S. cerevisiae)	2.22
PBEF1	pre-B-cell colony enhancing factor 1	2.22
DDX21	DEAD (Asp-Glu-Ala-Asp) box polypeptide 21	2.21
HMHA1	histocompatibility (minor) HA-1	2.21
WHSC2	Wolf-Hirschhorn syndrome candidate 2	2.20
WTAP	Wilms tumor 1 associated protein	2.20
YRDC	yrdC domain containing (E. coli)	2.20
NFKB2	nuclear factor of kappa light polypeptide gene enhancer in B-cells 2 (p49/p100)	2.19
RALA	v-ral simian leukemia viral oncogene homolog A (ras related)	2.19
CUL2	cullin 2	2.18
GADD45B	growth arrest and DNA-damage-inducible, beta	2.18
SGK	serum/glucocorticoid regulated kinase	2.17
SEC14L1	SEC14-like 1 (S. cerevisiae)	2.16
PSG6	pregnancy specific beta-1-glycoprotein 6	2.16
STARD13	START domain containing 13	2.16
IBRDC3	IBR domain containing 3	2.16
SBF1	SET binding factor 1	2.16
MYC	v-myc myelocytomatosis viral oncogene homolog (avian)	2.15
HUS1	HUS1 checkpoint homolog (S. pombe)	2.15
ATPBD1B	ATP binding domain 1 family, member B	2.15
FOSL2	FOS-like antigen 2	2.15
TIPIN	TIMELESS interacting protein	2.15
KIAA0040	KIAA0040	2.14
PNO1	partner of NOB1 homolog (S. cerevisiae)	2.14
BNIP1	BCL2/adenovirus E1B 19kDa interacting protein 1	2.14
BYSL	bystin-like	2.13
CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	2.12
CEP170	centrosomal protein 170kDa	2.12
IL32	interleukin 32	2.11
AATK	apoptosis-associated tyrosine kinase	2.11
ANKRD1	ankyrin repeat domain 1 (cardiac muscle)	2.11
CX3CL1	chemokine (C-X3-C motif) ligand 1	2.11
HSPA9	heat shock 70kDa protein 9 (mortalin)	2.09
KLF10	Kruppel-like factor 10	2.09
RAB32	RAB32, member RAS oncogene family	2.09
CDC42EP1	CDC42 effector protein (Rho GTPase binding) 1	2.08
P2RX7	purinergic receptor P2X, ligand-gated ion channel, 7	2.08
TFE3	transcription factor binding to IGHM enhancer 3	2.08
ZNF202	zinc finger protein 202	2.07
PLAU	plasminogen activator, urokinase	2.07
MEF2A	myocyte enhancer factor 2A	2.07
C12orf24	chromosome 12 open reading frame 24	2.06
TICAM1	toll-like receptor adaptor molecule 1	2.06
RCL1	RNA terminal phosphate cyclase-like 1	2.06
JMJD3	jumonji domain containing 3	2.06
IER2	immediate early response 2	2.05
ELL	elongation factor RNA polymerase II	2.05
MRTO4	mRNA turnover 4 homolog (S. cerevisiae)	2.05
RELB	v-rel reticuloendotheliosis viral oncogene homolog B, nuclear factor of kappa light polypeptide gene enhancer in B-cells 3 (avian)	2.04
NOL1	nucleolar protein 1, 120kDa	2.04
CEBPD	CCAAT/enhancer binding protein (C/EBP), delta	2.03
CXCL12	**chemokine (C-X-C motif) ligand 12 (stromal cell-derived factor 1)**	**2.03**
LEPREL1	leprecan-like 1	2.02
RNMTL1	RNA methyltransferase like 1	2.01

HMOX1	heme oxygenase (decycling) 1	2.00
TTF2	transcription termination factor, RNA polymerase II	2.00
TNFRSF4	tumor necrosis factor receptor superfamily, member 4	2.00
PAPD1	PAP associated domain containing 1	2.00
KHDRBS3	KH domain containing, RNA binding, signal transduction associated 3	1.99
BOP1 /// LOC727967	block of proliferation 1 /// similar to block of proliferation 1	1.99
WDR43	WD repeat domain 43	1.99
GBE1	glucan (1,4-alpha-), branching enzyme 1 (glycogen branching enzyme, Andersen disease, glycogen storage disease type IV)	1.98
CHST2	carbohydrate (N-acetylglucosamine-6-O) sulfotransferase 2	1.98
ZBTB43	zinc finger and BTB domain containing 43	1.98
GRPEL1	GrpE-like 1, mitochondrial (E. coli)	1.98
CLCF1	cardiotrophin-like cytokine factor 1	1.98
CBLL1	Cas-Br-M (murine) ecotropic retroviral transforming sequence-like 1	1.98
KIF17	kinesin family member 17	1.98
PFKFB3	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3	1.97
CCDC86	coiled-coil domain containing 86	1.97
PER2	period homolog 2 (Drosophila)	1.97
ZNF787	zinc finger protein 787	1.97
HIST1H2AC	histone cluster 1, H2ac	1.97
KIAA0020	KIAA0020	1.96
NOL5A	nucleolar protein 5A (56kDa with KKE/D repeat)	1.95
LIN37	lin-37 homolog (C. elegans)	1.95
WDR74	WD repeat domain 74	1.95
PPIF	peptidylprolyl isomerase F (cyclophilin F)	1.94
RGS17	regulator of G-protein signalling 17	1.94
NNMT	nicotinamide N-methyltransferase	1.93
RSL1D1	ribosomal L1 domain containing 1	1.93
PCTK2	PCTAIRE protein kinase 2	1.93
NARG1	NMDA receptor regulated 1	1.92
H1FX	H1 histone family, member X	1.90
SMAD3	SMAD family member 3	1.90
GNAI3	guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 3	1.88
UPP1	uridine phosphorylase 1	1.88
PKP2	plakophilin 2	1.88
AKAP12	A kinase (PRKA) anchor protein (gravin) 12	1.88
CEBPZ	CCAAT/enhancer binding protein zeta	1.87
N4BP3	Nedd4 binding protein 3	1.87
TFB2M	transcription factor B2, mitochondrial	1.87
ICAM1	intercellular adhesion molecule 1 (CD54), human rhinovirus receptor	1.86
NOC4L	nucleolar complex associated 4 homolog (S. cerevisiae)	1.86
GBP1	guanylate binding protein 1, interferon-inducible, 67kDa	1.85
TRMT1	TRM1 tRNA methyltransferase 1 homolog (S. cerevisiae)	1.85
C14orf172	chromosome 14 open reading frame 172	1.85
TNFAIP3	tumor necrosis factor, alpha-induced protein 3	1.84
BAZ1A	bromodomain adjacent to zinc finger domain, 1A	1.83
RBM15	RNA binding motif protein 15	1.83
ATP13A3	ATPase type 13A3	1.83
WDR13	WD repeat domain 13	1.83
SCN3B	sodium channel, voltage-gated, type III, beta	1.82
DDX56	DEAD (Asp-Glu-Ala-Asp) box polypeptide 56	1.82
MRPS2	mitochondrial ribosomal protein S2	1.82
CXCL1	chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)	1.81

CDK7	cyclin-dependent kinase 7 (MO15 homolog, Xenopus laevis, cdk-activating kinase)	1.81
NDUFB7	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 7, 18kDa	1.81
NFIL3	nuclear factor, interleukin 3 regulated	1.80
SNAPC1	small nuclear RNA activating complex, polypeptide 1, 43kDa	1.80
PHLPPL	PH domain and leucine rich repeat protein phosphatase-like	1.80
GADD45A	growth arrest and DNA-damage-inducible, alpha	1.79
PLA2G4C	phospholipase A2, group IVC (cytosolic, calcium-independent)	1.79
NOLC1	nucleolar and coiled-body phosphoprotein 1	1.79
H3F3B	H3 histone, family 3B (H3.3B)	1.79
RRP15	ribosomal RNA processing 15 homolog (S. cerevisiae)	1.79
C19orf22	chromosome 19 open reading frame 22	1.79
NP	nucleoside phosphorylase	1.78
OSBPL3	oxysterol binding protein-like 3	1.78
BRD2	bromodomain containing 2	1.78
CUGBP2	CUG triplet repeat, RNA binding protein 2	1.77
NPC1	Niemann-Pick disease, type C1	1.77
MPHOSPH6	M-phase phosphoprotein 6	1.77
RASIP1	Ras interacting protein 1	1.77
CHORDC1	cysteine and histidine-rich domain (CHORD)-containing 1	1.76
SPATA5L1	spermatogenesis associated 5-like 1	1.76
F2RL1	coagulation factor II (thrombin) receptor-like 1	1.75
HIST2H2AA3 /// HIST2H2AA4	histone cluster 2, H2aa3 /// histone cluster 2, H2aa4	1.75
NAT9	N-acetyltransferase 9	1.74
BCL2L1	BCL2-like 1	1.74
CFLAR	CASP8 and FADD-like apoptosis regulator	1.74
CASP1	caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase)	1.73
MTHFD2	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase	1.72
RRAS2	related RAS viral (r-ras) oncogene homolog 2	1.72
PAQR3	progestin and adipoQ receptor family member III	1.72
KRT18	keratin 18	1.70
IRF1	interferon regulatory factor 1	1.70
C8orf33	chromosome 8 open reading frame 33	1.69
TXNRD1	thioredoxin reductase 1	1.68
C1orf163	chromosome 1 open reading frame 163	1.68
TMEM70	transmembrane protein 70	1.67
TPK1	thiamin pyrophosphokinase 1	1.67
DOCK4	dedicator of cytokinesis 4	1.65
NGDN	neuroguidin, EIF4E binding protein	1.64
TXNL4B	thioredoxin-like 4B	1.64
NQO1	NAD(P)H dehydrogenase, quinone 1	1.63
SLC16A3	solute carrier family 16, member 3 (monocarboxylic acid transporter 4)	1.63
BTG3	BTG family, member 3	1.63
HIST2H2BE	histone cluster 2, H2be	1.62
RNF111	ring finger protein 111	1.61
C20orf111	Chromosome 20 open reading frame 111	1.61
SYNJ2	synaptojanin 2	1.60
ASRGL1	asparaginase like 1	1.60
EMG1	EMG1 nucleolar protein homolog (S. cerevisiae)	1.59
RPP40	ribonuclease P 40kDa subunit	1.57
PLCL2	phospholipase C-like 2	1.57
ZNF259	zinc finger protein 259	1.56

CGRRF1	cell growth regulator with ring finger domain 1	1.56
EIF1	eukaryotic translation initiation factor 1	1.56
ING3	inhibitor of growth family, member 3	1.55
RAE1	RAE1 RNA export 1 homolog (S. pombe)	1.55
MRPS30	mitochondrial ribosomal protein S30	1.51
PVR	poliovirus receptor	1.49
GCH1	GTP cyclohydrolase 1 (dopa-responsive dystonia)	1.47
SLC1A4	solute carrier family 1 (glutamate/neutral amino acid transporter), member 4	1.44
SLC9A1	solute carrier family 9 (sodium/hydrogen exchanger), member 1 (antiporter, Na+/H+, amiloride sensitive)	1.31
GMEB2	glucocorticoid modulatory element binding protein 2	1.28
SLC25A37	solute carrier family 25, member 37	1.23
ACTN1	actinin, alpha 1	1.14
SMC2	structural maintenance of chromosomes 2	1.10
ADAM19	ADAM metallopeptidase domain 19 (meltrin beta)	0.89
SLC2A8	solute carrier family 2, (facilitated glucose transporter) member 8	0.73
RUNX1T1	runt-related transcription factor 1; translocated to, 1 (cyclin D-related)	0.69
GALC	galactosylceramidase	0.66
RAB6B	RAB6B, member RAS oncogene family	0.66
PPAP2B	phosphatidic acid phosphatase type 2B	0.65
CDC2L6	cell division cycle 2-like 6 (CDK8-like)	0.65
FRY	furry homolog (Drosophila)	0.64
SCNN1B	sodium channel, nonvoltage-gated 1, beta (Liddle syndrome)	0.64
CDKN1C	cyclin-dependent kinase inhibitor 1C (p57, Kip2)	0.64
C1orf38	chromosome 1 open reading frame 38	0.63
RNASE4	ribonuclease, RNase A family, 4	0.63
OLFML3	olfactomedin-like 3	0.63
MAN1A1	mannosidase, alpha, class 1A, member 1	0.62
KLHL4	kelch-like 4 (Drosophila)	0.62
P2RY5	purinergic receptor P2Y, G-protein coupled, 5	0.62
CAT	catalase	0.61
REEP1	receptor accessory protein 1	0.60
TIMP3	TIMP metallopeptidase inhibitor 3 (Sorsby fundus dystrophy, pseudoinflammatory)	0.59
CCNG2	cyclin G2	0.59
KLHL3	kelch-like 3 (Drosophila)	0.59
ALG12	asparagine-linked glycosylation 12 homolog (S. cerevisiae, alpha-1,6-mannosyltransferase)	0.58
DZIP3	zinc finger DAZ interacting protein 3	0.57
ATG10	ATG10 autophagy related 10 homolog (S. cerevisiae)	0.57
VENTXP1	VENT homeobox (Xenopus laevis) pseudogene 1	0.57
GUCY1A3	guanylate cyclase 1, soluble, alpha 3	0.57
SNCAIP	synuclein, alpha interacting protein (synphilin)	0.56
SPTLC2	serine palmitoyltransferase, long chain base subunit 2	0.52
METTL7A	methyltransferase like 7A	0.52
C10orf56	chromosome 10 open reading frame 56	0.52
CD46	CD46 molecule, complement regulatory protein	0.51
BTD	biotinidase	0.51
MED28	Mediator of RNA polymerase II transcription, subunit 28 homolog (S. cerevisiae)	0.50
B3GNT3	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 3	0.49
HOXD3	homeobox D3	0.49
RNF125	ring finger protein 125	0.49
HIP1R /// LOC728014	huntingtin interacting protein 1 related /// similar to huntingtin interacting protein 1 related	0.49
PTENP1	phosphatase and tensin homolog (mutated in multiple advanced cancers 1),	0.49

	pseudogene 1	
NLRP1	NLR family, pyrin domain containing 1	0.49
FMO5	flavin containing monooxygenase 5	0.47
GUSBP1	glucuronidase, beta pseudogene 1	0.47
ABHD6	abhydrolase domain containing 6	0.47
SRGAP3	SLIT-ROBO Rho GTPase activating protein 3	0.46
LGR4	leucine-rich repeat-containing G protein-coupled receptor 4	0.45
ZNF358	zinc finger protein 358	0.45
IGFBP7	insulin-like growth factor binding protein 7	0.42
C5orf4	chromosome 5 open reading frame 4	0.40
TBX10	T-box 10	0.39
PDK3	pyruvate dehydrogenase kinase, isozyme 3	0.38
HYAL1	hyaluronoglucosaminidase 1	0.28

Supplementary Table 2. List of primers used in real time RT-PCR.

Gene Symbol (Common Name)	**Forward primer (5'→3')**	**Reverse primer (5'→3')**	**Probe (5'→3')**
CXCR4	CCAGTAGCCACCGCATCT	ATAGTCCCCTGAGCCCATTT	
CXCR7	CGCACAGCACAGCCAGGAAG	TCGTTCTGAGGCGGGCAATC	
PPIA (cyclophilin A)	GACGGCGAGCCCTTGG	TCTGCTGTCTTTGGGACCTTGT	
CXCL12α/β (SDF-1α/β)	TGTGCCCTTCAGATTGTAGC	CCACTTTAGCTTCGGGTCA	
GAPDH	GAAGGTGAAGGTCGGAGTC	GAAGATGGTGATGGGATTTC	
18S rRNA	AGGAATTGACGGAAGGGCAC	GGACATCTAAGGGCATCACA	
Luciferase	ACTCCTCTGGATCTACTGGTC	GTAATCCTGAAGGCTCCTCA	
ICAM1	AGCTTCTCCTGCTCTGCAAC	GTCTGCTGGGAATTTTCTGG	
SERPINE1 (PAI-1)	GCTGCATGACCTACCAGGA	AGCTGCCTGTCTCTCTCACC	
IL8	TGCGCCAACACAGAAATTA	CTCTGCACCCAGTTTTCCTT	
PPP1R15A (GADD34)	CGCCCAGAAACCCCTACTC	GCGCACCTTTCTGGCCTT	
ISG20	GGCTACACAATCTACGACACG	AGGCTGTTCTGGATGCTCTT	
VEGFA	GCA GAC CAA AGA AAG ATA GAC CAA G	CGC CTC GGC TTG TCA CAT	
EDN1 (ET-1)	TGGACATCATTTGGGTCAACA	TCTCTTGGACCTAGGGCTTCC	(FAM)-CCCGAGCACGTTGTTC CGTATGGAC-(TAMRA)
TIMP3	GAT GCC CCA TGT GCA GTA	CCC ACC TCT CCA CGA AGT	
F3 (Tissue Factor)	GGAACCCAAACCCGTCAATCA	CGTCTGCTTCACATCCTTCACAA TCT	
TFPI	TGTACAAGAGATAATGCAAACAG GATT	ATTTCCAGGATCTTCTTCCAAAAA G	
CXCL11 (I-TAC)	CTACAGTTGTTCAAGGCTTCCC	CCACTTTCACTGCTTTTACCCC	