

Table S3. Estrogen-responsive genes from ERGDB³⁹**Estrogen-responsive gene**

ACO2
BIK
BAIAP2L2
COMT
C1QTNF6
DGCR6
LGALS1
LIMK2
LIF
MCM5
PDGFB
PES1
PHF5A
RANBP1
SMARCB1
TCF20
TIMP3
TOP3B
XRCC6
YWAH
APP
ABCG1
BRWD1
CRYAA
CXADR
CHODL
DSCAM
HUNK
ITGB2
NCAM2
NRIP1
RUNX1
SIM2

TFF1
TFF3
TTC3
ATP9A
AHCY
BCL2L1
BMP2
BCAS1
CDH4
CEPB
CSNK2A1
E2F1
GDF5
ID1
KIF3B
MYBL2
PCNA
PLTP
PSMA7
PREX1
PARD6B
RALY
SNRPB
SEC23B
SRC
SNAP25
TCEA2
TCF15
THBD
TPX2
UBE2C
WISP2
ZNF217
APOE
ANGPTL4

ASF1B
BLVRB
BSG
CAPNS1
CYP2B6
CEACAM6
CCNE1
C19ORF24
C19ORF33
CEACAM1
EPOR
ERF
EGLN2
F2RL3
FKBP8
FXYD5
GNG7
GADD45B
GDF15
HCN2
ICAM1
IER2
INSL3
JUNB
KIR3DL2
KLK10
KLK4
NOTCH3
NR2F6
PRKCSH
PSMC4
PSMD8
PVR
PDCD5
SLC1A5

SNRPA

TGFB1

USF2

UHRF1

UBE2S

ZFP36

ZNF17

ZNF230

ZNF571

AQP4

APCDD1

BCL2

CDH2

LAMA3

NFATC1

PMAIP1

PTPN2

RBBP8

RAB31

SMAD2

TXNL4A

ACLY

ACTG1

APOH

ATP2A3

AKAP1

AURKB

ALOX15

AMZ2

BIRC5

BRCA1

BRIP1

C1QBP

CDC6

CNP

CCL2
CCL5
COPS3
CDK5R1
COL1A1
CSF3
CD300LF
DDX5
EIF5A
ENO3
ERBB2
GFAP
GALK1
GUCY2D
H3F3B
HGS
HS3ST3A1
IGFBP4
ITGA3
ITGAE
KPNB1
KPNA2
KRT19
KRT23
MAP2K6
MAP2K4
NME1
NME2
NUP88
NGFR
PMP22
PSMB3
PSMB6
PSMD11
PSME3

RAB5C
RAD51C
RARA
RPS6KB1
RASD1
RAPGEFL1
SOX9
SCARF1
SOCS3
SLC16A6
SYNGR2
SLC9A3R1
SSTR2
SDK2
SLC35B1
TK1
TOP2A
TP53
TUBG1
TOB1
UBTF
WNT9B
WSB1
AARS
ABCA3
AMFR
ACSM3
AXIN1
CDH11
CREBBP
CDIPT
DNASE1
DNAJA2
DPEP1
FOXF1

FOXC2
GOT2
HBA1
HBQ1
HMOX2
HSD11B2
IRX5
KIF22
LITAF
MT1B
MT1L
MT1X
MYH11
NFATC3
NUP93
NETO2
PLK1
PKMYT1
RBBP6
RBL2
RPS2
RAB26
SPN
SULT1A1
SLC7A5
SF3B3
SSTR5
TNFRSF12A
YPEL3
ZNF267
ANXA2
ARNT2
ABHD2
ACTC1
ANP32A

ALDH1A2

BUB1B

CA12

CYP1A1

CORO2B

CSNK1G1

CYP19A1

DUT

FBN1

FGF7

GATM

HDC

IDH2

IGF1R

IPW

ISG20

IQGAP1

LRRC49

MEF2A

MYO1E

MESDC2

NTRK3

NDN

NUSAP1

NR2F2

PCSK6

PPIB

PRC1

RAD51

SMAD6

SORD

SPRED1

THBS1

ACTN1

CALM1

DHRS2
DAD1
DIO2
EIF2S1
EIF5
EML1
ERH
ESR2
ESRRB
FOS
HIF1A
ITPK1
MTHFD1
MAX
NFKBIA
NUMB
NDRG2
PCK2
PTGER2
PNP
SERPINA3
SERPINA6
SERPINA5
SERPINA1
SSTR1
TGFB3
TEP1
VRK1
WARS
ZFP36L1
ZFYVE26
CUL4A
CCNA1
EFNB2
ELF1

FLT1
FARP1
GPR18
GTF3A
GJB2
HMGB1
HTR2A
ITGBL1
IRG1
ITM2B
KL
LHFP
MAB21L1
NBEA
POU4F1
RFC3
RASA3
RB1
SLC7A1
SPRY2
TFDP1
ASCL1
ACVR1B
ACVRL1
BCAT1
BICD1
CACNA1C
CD69
CCT2
CDK2AP1
CCND2
CDKN1B
CDK2
DDIT3
DUSP6

ENO2
ERBB3
FKBP4
FOXM1
FGF6
FOXJ2
GAPDH
GALNT4
GPRC5A
GLYCAM1
HOXC6
HSD17B6
HIP1R
HOXC8
HSPB8
IFNG
ITGA5
ITPR2
IGF1
KRT6B
KRT7
KRT8
KITLG
KCNA5
KCNJ8
KRAS
LUM
MARS
MGP
MVK
MYF5
NR4A1
NTS
NR2C1
OLR1

ORMDL2

PA2G4

PDE3A

PKP2

PTPRO

PRIM1

PHLDA1

PAWR

RAN

RFC5

RERG

SCNN1A

SHMT2

SOCS2

SLC16A7

STRAP

SCARB1

SYT1

SLC38A1

TMPO

TPI1

TIMELESS

TMED2

UNG

ULK1

VAMP1

VDR

WNT1

WNT10B

WSB2

XPOT

ACRV1

ATP5L

ADM

BANF1

CCND1
CD44
CTNND1
CTSD
CALCA
CHEK1
DLG2
EEF1G
EHF
FXYD2
FEN1
FTH1
FGF4
FUT4
F2
H2AFX
HBG1
HBG2
HSPA8
HYOU1
IGF2
LDHA
LUZP2
MMP3
MARK2
MTNR1B
NUCB2
NXF1
P2RY6
PGR
PRSS23
POLA2
POU2F3
RPL27A
RPS3

RRM1
RBM14
SLC22A18AS
SAA1
SLC1A2
SLC3A2
SPCS2
STIP1
SERPING1
SCT
SYTL2
SYT8
SYT7
TCN1
TCIRG1
TAF10
VEGFB
VPS37C
YIF1A
ZBTB16
ADRB1
ARL3
AKR1C4
ADRA2A
ASB13
BNIP3
BAMBI
BLNK
CREM
CXCL12
CUBN
CYP26A1
DOCK1
DDIT4
EGR2

FGFR2
GFRA1
GOT1
GSTO1
HK1
IDI1
ITIH2
IFIT1
IFIT3
KLF6
KIF11
KCNIP2
LRRC20
MAP3K8
MRC1
NRP1
NOLC1
NPM3
PFKP
PGAM1
PLAU
PSAP
PPIF
PARD3
RET
RHOBTB1
RAB18
SVIL
ZNF33A
ZWINT
ANXA1
ANP32B
ABCA1
AK1
AQP3

BAG1
B4GALT1
CKS2
COL15A1
COL5A1
COQ4
C9ORF3
DNAJA1
ENG
FBP1
FNBP1
GAS1
HSPA5
IARS
IFNA14
IFNB1
KLF4
LCN2
MPDZ
NR4A3
NFIL3
OLFM1
OSTF1
PGM5
PTGS1
PLAA
PTGES
PTGDS
RFX3
RXRA
RNF38
SET
STXBP1
SSNA1
SEC61B

SUSD3
TNFSF8
TNC
TEK
UGCG
WNK2
ARFGEF1
ARC
ATAD2
ADRA1A
AZIN1
ANGPT1
BIN3
CA2
CLU
COX6C
CRH
CALB1
CA13
DEFA4
DUSP4
DLC1
EGR3
EIF4EBP1
ENY2
FDFT1
FABP4
GEM
GNRH1
GRHL2
KLF10
LY6E
LPL
MCM4
MMP16

MYBL1

MYC

MATN2

NDRG1

NCOA2

OPRK1

PCM1

PDGFRL

PLAT

PTDSS1

PNOc

PKIA

PBK

PLEKHF2

SFRP1

ST3GAL1

SLA

SLC7A2

SQLE

STAR

STC1

STK3

ST18

SNAI2

SOX17

SLC39A14

SLC39A4

TCEA1

TRPS1

TNFRSF11B

TP53INP1

ZNF703

ACHE

ADCY1

ASNS

ABCB1

AGR2

AQP1

ANLN

CALCR

CAV1

CDK6

CHN2

CPA2

CLDN4

CBX3

CRCP

CYCS

CREB3L2

EGFR

EPO

EPHB4

EZH2

GARS

GRB10

GTF2I

HOXA7

HSPB1

HBP1

H2AFV

IL6

INHBA

INMT

KCND2

LEP

MCM7

MEST

MEOX2

NUDT1

NOS3

NRF1
POLD2
PPIA
PTPN12
PDIA4
PEG10
PRKAG2
RPA3
RAMP3
RAC1
SLC26A3
SERPINE1
SP4
SEMA3C
SEC61G
SND1
SMURF1
SFRP4
TAC1
TFPI2
TRIM24
TES
TRIP6
TSPAN13
TRA2A
TSC22D4
THAP5
VGF
ZDHHC4
AIM1
AMD1
ARG1
AKAP12
BAK1
CDKN1A

CGA
CNR1
CRISP3
CITED2
CTGF
CNKSR3
EDN1
EEF1A1
ESR1
ELOVL2
ELOVL5
FKBP5
FOXC1
FRK
FYN
GJA1
GABRR1
HIST1H4C
HIST1H3C
HIST1H2AB
HIST1H2BB
JARID2
MARCKS
MAN1A1
MCM3
ME1
MYB
MTRF1L
PGC
PIM1
PKIB
PTPRK
PRDM1
PRIM2
PBOV1

RPL10A
RUNX2
RANBP9
SLC29A1
SERPINB6
SYNCRIP
THBS2
TPBG
TPD52L1
TULP1
ARSB
ADRB2
ANKH
BTF3
CCNB1
CDH18
CTNND2
CXCL14
CSF1R
CCT5
DPYSL3
DUSP1
ENC1
EGR1
ELL2
F12
FLT4
FGF18
FST
FAM53C
GABRP
GTF2H2
GDNF
GZMA
HBEGF

HMGCR

HMMR

HSPA4

HTR1A

IL12B

IRF1

KIF20A

LMAN2

MAP1B

MSX2

NPM1

NEUROG1

N4BP3

OSMR

PIK3R1

PITX1

PPP2CA

PRLR

PTTG1

PLK2

PAM

SLC26A2

SMAD5

SGCD

SLC12A2

ST8SIA4

STC2

SPARC

SRD5A1

SNX24

TNPO1

TAF9

TBCA

TCF7

TRIP13

TCERG1
TGFB1
TMED7
WDR41
AFP
ALB
ANXA3
AREG
ART3
ABCE1
ANKRD17
CCNG2
CLCN3
CTBP1
CXCL1
CXCL2
CPE
CXCL10
DCK
EXOSC9
FGB
GNRHR
GRIA2
GRID2
GUCY1B3
H2AFZ
HMGB2
HPGD
ING2
INPP4B
IGJ
KDR
KIT
KCNIP4
MAD2L1

MXD4
MSX1
MAPK10
NPY1R
PPBP
PCGF3
PAICS
PDLM5
PTTG2
PKD2
PROL1
SCARB2
S100P
SPRY1
SFRP2
SLC39A8
SLC25A4
TLR2
TSPAN5
TACC3
AHSG
ALCAM
APOD
ATP2B2
ABCC5
ABHD5
ATP13A3
BCL6
CBLB
CD86
CCR1
CCR2
CP
CLDN1
CCR5

CCK
EDEM1
EPHA3
FOXP1
GNL3
HES1
IMPDH2
IFRD2
KCNAB1
KCNMB3
LTF
LRRFIP2
LAMB2
LRCH3
LRRC15
MBNL1
MCM2
MASP1
MRPL3
MME
OXTR
PLOD2
PRKCD
PTPRG
PIK3CA
PPARG
PTX3
PDZRN3
PHF7
PHLDB2
RPSA
RPL15
RPL14
ROBO1
RARB

SATB1
SSR3
SEMA3B
SH3BP5
SERPINI1
STAB1
SEC61A1
SEMA5B
SNRK
THPO
TKT
TMF1
TNFSF10
THR8
UMPS
WNT5A
WNT7A
ADCY3
ALPP
APOB
ATP5G3
AGPS
ACTG2
ANXA4
ANKRD44
BZW1
BCL2L11
CALM2
CCNT2
CD8A
CENPA
CPS1
CTNNA2
CYP1B1
CCT7

CCT4
CLK1
COL3A1
COL6A3
CDCA7
COX5B
COMMID1
DTYMK
DBI
DNER
EEF1B2
EPHA4
EFEMP1
EPB41L5
FOSL2
FEZ2
FAM84A
GFPT1
GPD2
GREB1
HOXD4
HSPD1
HAT1
HDAC4
HSPE1
HPCAL1
ID2
IGFBP5
IL1R1
INHBB
IRS1
ITGAV
IL1R2
IL1RL2
ITGB1BP1

IGFBP2
ITGA4
ITGA6
KYNU
KCNK3
KHK
KIF3C
MXD1
MYO1B
MTHFD2
MCM6
NEB
NRP2
PDCD1
PRKCE
PSMD1
PTMA
PAX8
PTPN18
RAB1A
RRM2
RAMP1
RIF1
RSAD2

2-Sep

SLC1A4
SNRPG
SOS1
SMYD1
SLC20A1
SLC8A1
SERPINE2
TFPI
TGFA
TSN

TMSB10

TRIB2

UBE2E3

WDR43

WDFY1

ZFP36L2

ADORA1

ALPL

APOA2

ATF3

ANXA9

ACTA1

ARHGEF2

BTG2

BCAN

BMP8A

BMP8B

CD34

CD58

CDC20

COPA

CRP

CYP2J2

CELSR2

CYR61

CCT3

C1QB

CFH

CTSS

CD52

CLIC4

CACYBP

CKS1B

C1ORF123

C1ORF68

DHCR24

DDOST

DVL1

ECE1

EFNA1

ENO1

EXOSC10

EXO1

EDN2

ENAH

FAIM3

F3

FAM72A

GABRD

GCLM

GNB1

GADD45A

GBP2

GSTM1

GSTM2

GREM2

H3F3A

HSPA6

HAX1

HMGCSE2

HEATR1

IFI16

ILF2

IRF6

IL6R

JUN

KCND3

KCNK2

KIF2C

KIFAP3

LEPR
MPL
MUC1
MKNK1
MAPKAPK2

2-Mar

MRPS14
NFIA
NHLH2
NRAS
NTNG1
NASP
PARP1
PDE4B
PDZK1
PLXNA2
PSEN2
PSMB4
PTGER3
PTGS2
PIK3R3
PTPRU
PBX1
PADI1
PIGR
PHGDH
RHOC
RERE
RGS2
RPS6KA1
RSC1A1
RBM8A
RPA2
RUSC1
RHOU

STMN1
S100A9
S100A10
SFPQ
SLC2A1
SNRPE
SELENBP1
SF3A3
SKI
SLC16A1
SPRR2A
SPRR2B
SPRR2E
SPRR2F
SPRR2G
SRM
SSBP3
SCP2
SEMA4A
STX12
TACSTD2
TPM3
TIMM17A
TXNIP
TBX15
UBE2T
UOX
VCAM1
WNT3A
WNT4
YBX1
YARS