

Supplementary Table. Complete list of analyzed candidate genes.

AARSD1	ATRIP	CDH1	CYP27A1
ABCC3	ATRX	CDK1	CYP3A4
ABI3	ATXN3	CDK5RAP3	CYP3A43
ABL1	ATXN7L3	CDK7	DAB2IP
ACBD4	AURKA	CDK9	DBF4B
ACSF2	AXIN2	CDKN1A	DCAKD
ACTL6A	B4DESO	CDKN1B	DCLRE1A
ACTR5	B4GALNT2	CDKN1C	DCLRE1B
ACTR8	BABAM1	CDKN2A	DCLRE1C
ADAM11	BARD1	CDKN2D	DDB1
AGAP2	BAZ1B	CEBPG	DDB2
AKAP1	BCCIP	CEP164	DDX1
AKR1C3	BECN1	CETN2	DGKE
AKT1	BIK	CHAD	DHX8
ALKBH1	BLM	CHAF1A	DLX3
ALKBH2	BRAF	CHAF1B	DLX4
ALKBH3	BRCA1	CHD1L	DNA2
AMACR	BRCA2	CHEK1	DTL
ANKFN1	BRCC3	CHEK2	DTX2P1-UPK3BP1-PMS2P11
ANKRD40	BRE	CHRNA4	DUSP3
AOC2	BRIP1	CIB1	E9PJ82
AOC3	BTG2	CINP	E9PJW3
AP5S1	C11orf30	CLSPN	E9PLZ0
AP5Z1	C17orf70	CNTD1	E9PP57
APC	C19orf40	CNTNAP1	E9PQ18
APEX1	C1QL1	COA3	EEFSEC
APEX2	CA10	COASY	EEPDI
APITD1	CACNA1G	COIL	EFTUD2
APLF	CALCOCO2	COL18A1	EGF
APTX	CASP8	COL1A1	EGFR
AR	CBX1	COPZ2	EHBP1
ARHGAP27	CCDC103	COX11	ELAC2
ARL17B	CCDC43	CRHR1	EME1
ARL4D	CCND1	CRY1	EME2
ASB16	CCNH	CRY2	ENDOV
ASF1A	CCNO	CSNK1D	EPC2
ASTE1	CCR10	CSNK1E	EPN3
ATM	CD300LG	CTBP2	ERBB2
ATP5G1	CDC14B	CUL4A	ERCC1
ATP6V0A1	CDC27	CUL4B	ERCC2
ATR	CDCA5	CYP17A1	ERCC3

ERCC4	FSBP	HOXB13	KAT5
ERCC5	FTO	HOXB2	KAT7
ERCC6	FZD2	HOXB3	KDR
ERCC6L2	FZR1	HOXB4	KIAA2022
ERCC8	G6PC	HOXB5	KIF18B
ERG	G6PC3	HOXB6	KIF22
ESR1	GADD45A	HOXB7	KIF2B
ETV1	GADD45G	HOXB8	KIN
ETV4	GEN1	HOXB9	KLF6
EXO1	GFAP	HPCX	KLK2
EYA1	GIP	HRAS	KLK3
EYA2	GJC1	HSD17B1	KPNB1
EYA3	GNB3	HSD17B3	KRAS
EYA4	GNGT2	HSD17B4	LEP
EZH1	GOSR2	HSD3B1	LIG1
EZH2	GPATCH8	HSD3B2	LIG3
F5GYV1	GRN	HUS1	LIG4
F5GZF4	GSTM1	HUWE1	LMTK2
F5GZN9	GSTP1	ICAM1	LOC100133315
F5H1X2	GSTT1	IFI35	LRRC37A
FAM117A	GTF2H1	IGF1	LRRC37A2
FAM134C	GTF2H2	IGF2BP1	LRRC46
FAM175A	GTF2H2C	IGFBP3	LRRC59
FAN1	GTF2H2D	IGHMBP2	LSM12
FANCA	GTF2H3	IL6	LUC7L3
FANCB	GTF2H4	INIP	MAD2L2
FANCC	GTF2H5	INO80	MAP3K14
FANCD2	H2AFX	INO80B	MAP3K14-AS1
FANCE	HDAC5	INO80C	MAPT
FANCF	HERC2	INO80D	MBD4
FANCG	HEXIM1	INO80E	MBTD1
FANCI	HEXIM2	INS	MC1R
FANCL	HIF1A	INTS3	MCRS1
FANCM	HIGD1B	IPO5	MDC1
FBXO18	HILS1	IRS1	MEN1
FBXO6	HINFP	ITGA2B	MEOX1
FEN1	HLF	ITGA3	MGMT
FGF10	HMGA1	ITGA6	MLH1
FGF4	HMGA2	ITGB3	MLH3
FGFR2	HMGB1	JAK2	MLX
FMNL1	HMGB2	JAZF1	MMD
FOXP3	HNF1B	JMY	MMS19
FRS2	HOXB1	KANSL1	MMS22L

MNAT1	NME1-NME2	PLXNB1	PRAC1
MORF4L1	NME2	PMS1	PRAC2
MORF4L2	NMT1	PMS2	PRKCG
MPG	NOG	PMS2CL	PRKDC
MPP2	NONO	PMS2L14	PRMT6
MPP3	NOS3	PMS2P1	PRPF19
MRE11A	NPEPPS	PMS2P5	PRR15L
MRPL10	NPM1	PNKP	PSMC3IP
MRPL27	NRAS	PNPO	PSMD4
MSH2	NSF	POLA1	PSME3
MSH3	NSMCE1	POLB	PTEN
MSH4	NSMCE2	POLD1	PTRF
MSH5	NTHL1	POLD2	PTTG1
MSH6	NUDT1	POLD3	PYY
MSI2	NUDT11	POLD4	RAD1
MSMB	NXPH3	POLE	RAD17
MSR1	OGG1	POLE2	RAD18
MTVR2	OSBPL7	POLG	RAD21
MUM1	PALB2	POLG2	RAD23A
MUS81	PAPD7	POLH	RAD23B
MUTYH	PARG	POLI	RAD50
MYC	PARP1	POLK	RAD51
MYCBPAP	PARP2	POLL	RAD51AP1
MYEOV	PARP3	POLM	RAD51B
MYL4	PARP4	POLN	RAD51C
NAGLU	PAXIP1	POLQ	RAD51D
NAGS	PCNA	POLR2A	RAD52
NAPB1	PCTP	POLR2B	RAD54B
NAPB2	PDGFA	POLR2C	RAD54L
NBN	PDGFB	POLR2D	RAD9A
NBR1	PDGFC	POLR2E	RAD9B
NBR2	PDGFD	POLR2F	RAMP2
NCOA4	PDGFRA	POLR2G	RB1
NCOA6	PDGFRB	POLR2H	RBBP8
NEIL1	PDK2	POLR2I	RBM14
NEIL2	PDLIM5	POLR2J	RBX1
NEIL3	PHB	POLR2K	RDM1
NFE2L1	PHOSPHO1	POLR2L	RECQL
NFRKB	PIM1	PPP1R14A	RECQL4
NGFR	PIPSL	PPP1R9B	RECQL5
NHEJ1	PLCD3	PPP4C	REV1
NKX3-1	PLEKHH3	PPP4R2	REV3L
NME1	PLEKHM1	PPY	RFC1

RFC2	SLC25A37	TAOK3	UBB
RFC3	SLC25A39	TBKBP1	UBC
RFC4	SLC30A9	TBX21	UBE2A
RFC5	SLC35B1	TCEA1	UBE2B
RFWD3	SLC4A1	TDG	UBE2D3
RHNO1	SLK	TDP1	UBE2N
RNASEL	SLX1A	TDP2	UBE2T
RND2	SLX1B	TERF2IP	UBE2V1
RNF168	SLX4	TET2	UBE2V2
RNF8	SMARCA5	TFPT	UBE2Z
RPA1	SMC1A	TGFB1	UBTF
RPA2	SMC3	TGFBR1	UCHL5
RPA3	SMC5	TH	UGT2B15
RPA4	SMC6	THADA	UHRF1
RPAIN	SMG1	TICRR	UIMC1
RPL27	SMUG1	TMEM100	UNG
RPRML	SNF8	TMEM101	UPF1
RPS27A	SNX11	TMEM106A	USP1
RPS27L	SOD1	TMEM161A	USP10
RPS3	SOD2	TMEM92	USP28
RRM2B	SOST	TMPRSS2	USP3
RSAD1	SP2	TMUB2	USP47
RTEL1	SP6	TNP1	UTP18
RUNDC1	SPAG9	TOB1	UVRAG
RUNDC3A	SPATA20	TOM1L1	VAT1
RUVBL1	SPOP	TONSL	VCP
RUVBL2	SPRTN	TOP2A	VDR
S100A7	SRC	TOPBP1	VEGFA
SAMD14	SRD5A2	TP53	VEGFB
SCPEP1	SSRP1	TP53BP1	VEGFC
SCRN2	STAT3	TP73	VGLL3
SETMAR	STAT5A	TRANK1	VHL
SETX	STAT5B	TREX1	VPS25
SFPQ	STH	TREX2	WDR33
SFR1	STRA13	TRIM25	WFIKKN2
SGCA	STUB1	TRIM28	WNK4
SHFM1	STXBP4	TRIP13	WNT3
SHH	SULT2A1	TTC5	WNT5A
SHPRH	SUMO1	TTLL6	WNT9B
SIRT1	SUPT16H	TUBG1	WRN
SKAP1	SWI5	TUBG2	WRNIP1
SKP2	TAC4	TYMS	WWOX
SLC22A3	TAOK1	UBA52	XAB2

XPA  
XPC  
XRCC1  
XRCC2

XRCC3  
XRCC4  
XRCC5  
XRCC6

XRCC6BP1  
XYLT2  
YY1  
ZBTB32

ZFYVE26  
ZNF652  
ZSWIM7