

AKT1, MYC, CASP3, EGFR, JUN, CCND1, VEGFA, ESR1, MAPK1, EGF, IL6, PTGS2, ERBB2, FOS, MMP9, CXCL8, MMP2, BCL2L1, CASP8, AR, IL1B, CCL2, CDKN1A, IL10, PPARG, RELA, SPP1, ICAM1, PGR, SERPINE1, STAT1, HIF1A, CASP9, IFNG, IL2, AHR, MMP1, MMP3, CCNB1, NFKBIA, CAV1, RB1, PLAU, IGF2, NFE2L2, MPO, IGF1BP3, PARP1, RUNX2, ABCG2, CD40LG, RAF1, HSPB1, NQO1, GJA1, IRF1, PRKCA, E2F1, CTSD, CHEK2, GSTP1, TOP2A, TOP1, BCL2, ERBB3, CYP1A1, BIRC5, BAX, CYP1B1, RASSF1, ODC1, INSR, TP63, GSTM1, NR3C2

Figure S1 Seventy-five common targets shared by the FAA compound targets and the breast cancer-related targets.

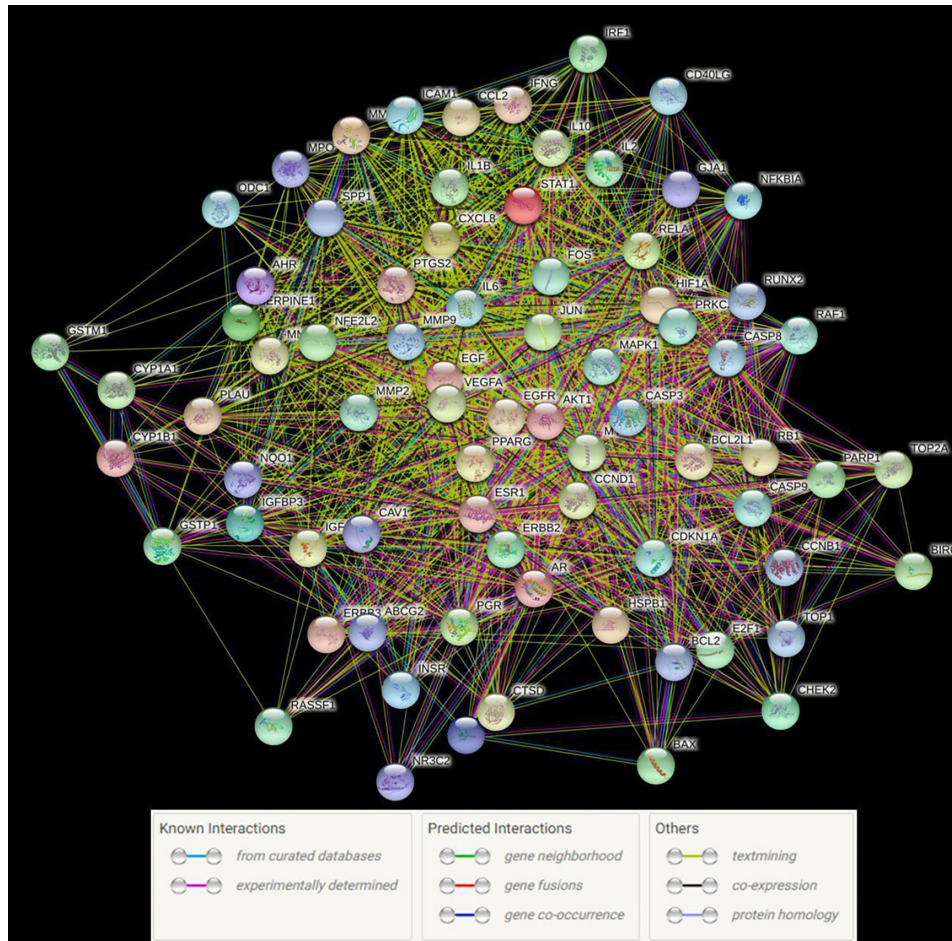


Figure S2 PPI network of FAA compound targets against breast cancer from the STRING database. PPI, protein-protein interaction; FAA, folium Artemisia argyi; STRING, Search Tool for the Retrieval of Interacting Genes.

Table S1 All FAA compounds before screening

Molecule ID	Molecule name	OB (%)	DL
MOL001015	ZINC00388662	67.05	0.08
MOL001040	(2R)-5,7-dihydroxy-2-(4-hydroxyphenyl)chroman-4-one	42.36	0.21
MOL001121	19894-97-4	49.98	0.06
MOL001129	l-Verbenone	50.66	0.06
MOL000118	(L)-alpha-Terpineol	48.8	0.03
MOL000119	ZINC02040970	40.43	0.06
MOL001217	()-Bornyl acetate	65.55	0.08
MOL001242	dl-Thujone	63.88	0.05
MOL001245	(1S,5R)-7,7-dimethyl-4-bicyclo[3.1.1]hept-3-enecarboxaldehyde	41.25	0.06
MOL000125	(-)-alpha-Pinene	46.25	0.05
MOL001254	(S)-p-Mentha-1,8-dien-7-al	39	0.03
MOL000126	(-)-nopinene	44.84	0.05
MOL000128	NERYLACETATE	25.94	0.04
MOL000130	CAM	67.17	0.05
MOL001303	(1R,2R,4S)-2,4-diisopropenyl-1-methyl-1-vinylcyclohexane	5.58	0.06
MOL000131	EIC	41.9	0.14
MOL001388	(+)-Ledol	16.96	0.12
MOL001442	phytol	33.82	0.13
MOL001494	Mandenol	42	0.19
MOL001600	copaene	29.47	0.12
MOL001640	NON	26.74	0.03
MOL000018	(+/-)-Isoborneol	86.98	0.05
MOL001871	simiarenol	11.86	0.77
MOL001899	ZINC02169908	23.3	0.1
MOL000019	D-Camphene	34.98	0.04
MOL000197	Myrcene	24.96	0.02
MOL001999	scoparone	74.75	0.09
MOL000200	(S)-(+)-alpha-Phellandrene	27.9	0.02
MOL002002	cis-Carveol	45.61	0.03
MOL002021	4-Vinyl-m-xylene	36.82	0.02
MOL000207	Methyleugenol	73.36	0.04
MOL000208	()-Aromadendrene	55.74	0.1
MOL002160	1-terpineol	49.83	0.03
MOL002185	7-oxabicyclo-2.2.1-heptane,1-methyl-4-[1-methylethyl]-	60.92	0.04
MOL000223	caffeic acid	25.76	0.05

Table S1 (continued)

Table S1 (continued)

Molecule ID	Molecule name	OB (%)	DL
MOL000234	L-Limonen	38.09	0.02
MOL002351	3-Hexenol	62.74	0.01
MOL000024	alpha-humulene	22.98	0.06
MOL002453	(-)-Comphene	34.98	0.04
MOL000252	farnesol	28.44	0.06
MOL002558	Skimmetin	27.37	0.05
MOL000259	o-Thymol	43.28	0.03
MOL000262	(1R,4S)-1,7,7-trimethylbicyclo[2.2.1]hept-2-ene	39.62	0.04
MOL000264	Tereben	29.62	0.02
MOL000266	beta-Cubebene	32.81	0.11
MOL000267	beta-Citronellol	38.89	0.02
MOL002675	Hexenal	46.01	0.01
MOL000268	(1S,5S)-1-isopropyl-4-methylenebicyclo[3.1.0]hexane	46.21	0.04
MOL000027	alpha-Curcumene	4.68	0.06
MOL000271	l-carvone	49.47	0.03
MOL002883	Ethyl oleate (NF)	32.4	0.19
MOL003047	[(1S)-endo]-(-)-Borneol	83.54	0.05
MOL003180	widdrene	53.81	0.12
MOL000034	2-[(1R,3S,4S)-3-isopropenyl-4-methyl-4-vinylcyclohexyl]propan-2-ol	19.03	0.07
MOL003521	Isohomogenol	32.61	0.04
MOL003574	α -gurjunene	52.57	0.1
MOL000358	beta-sitosterol	36.91	0.75
MOL000361	Amyrin	17.6	0.76
MOL003837	esculetin	22.97	0.07
MOL003937	Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-7-methyl-4-methylene-1-(1-methylethyl)-, (1alpha,4abeta,8aalphabet)	20.21	0.08
MOL000040	Scopoletin	27.77	0.08
MOL000415	rutin	3.2	0.68
MOL000431	coumarin	29.17	0.04
MOL000441	LUPENONE	11.66	0.78
MOL004480	acetic acid	47.87	0
MOL000449	Stigmasterol	43.83	0.76
MOL000459	CHEBI:39932	32.79	0.01
MOL004617	Ayapanin	41.55	0.06
MOL004741	(7aR)-4,4,7a-trimethyl-6,7-dihydro-5H-benzofuran-2-one	40.48	0.07

Table S1 (continued)

Table S1 (continued)

Molecule ID	Molecule name	OB (%)	DL
MOL000478	Eucarvone	53.14	0.03
MOL000479	Farnesene	17.42	0.05
MOL000508	Friedelin	29.16	0.76
MOL002003	(-)-Caryophyllene oxide	32.67	0.13
MOL000520	alpha-amyrin	10.28	0.76
MOL005386	Vulgarin	29.21	0.2
MOL005705	Eicosanol	12.1	0.16
MOL005711	vinyl 2,2-dimethyl-3-phenyl-propionate	27.55	0.06
MOL005712	3-methyl-6-(1-methylethylidene)-cyclohexene	29.14	0.02
MOL005713	2,6,6-Trimethylcyclohexa-2,4-dienone	75.49	0.03
MOL005714	cirsilneol	81.96	0.01
MOL005715	3,4-DIMETHYLBIPHENYL	27.29	0.06
MOL001878	4,5-Di-O-caffeoylquinic acid	1.78	0.69
MOL005717	6,6-dimethyl-3-methylene bicyclo[3.1.1]-heptane	49.35	0.05
MOL005718	6-Methoxy-7,8-methylenedioxy coumarin	28.61	0.13
MOL005719	12-Tricosanol	12.42	0.23
MOL005720	24-methylenecycloartanone	41.11	0.79
MOL005721	cycloart-25-en-3 β ,24-diol	20.92	0.8
MOL005722	ZINC00395662	51.92	0.01
MOL005723	Phytodolor	52.32	0.1
MOL005724	Amylene	41.4	0
MOL005725	(-)-isoperitenone	56.98	0.03
MOL005726	Artemisia ketone	74.44	0.02
MOL005727	MIPK	74.51	0.01
MOL005728	Ayanin	14.96	0.37
MOL005729	1-octen-3-ol	15.22	0.4
MOL005730	3-NONANONE	22.89	0.02
MOL005731	Methylenecyclopentane	51.11	0.01
MOL005732	Pentadecanal	10.38	0.06
MOL005733	(2S)-6-methyl-2-[(2S,5R)-5-methyl-5-vinyl-2-tetrahydrofuran-2-yl]hept-5-en-3-one	23.29	0.08
MOL005734	eupatilin	29.39	0.38
MOL005735	dammaradienyl acetate	44.83	0.83
MOL005736	cyperene	51.87	0.11
MOL005737	vulgarole	49.04	0.14
MOL005738	2-benzylidenesuccinic acid	70.7	0.06

Table S1 (continued)

Table S1 (continued)

Molecule ID	Molecule name	OB (%)	DL
MOL005739	Neryl butyrate	51.55	0.06
MOL005740	artemisia alcohol	45.45	0.04
MOL005741	cycloartenol acetate	41.11	0.8
MOL005742	Chinova acid	17.44	0.72
MOL005743	Proximadiol	36.71	0.11
MOL005744	carvenone	62.99	0.06
MOL005745	fernenol	10.5	0.78
MOL005746	fernenone	18.25	0.76
MOL005747	[(Z)-hex-1-enyl] acetate	22.18	0.02
MOL005748	17020-04-1	9.53	0.74
MOL005749	isopulegone	64.31	0.03
MOL005750	isoamylcyclohexane	28.19	0.02
MOL005751	(6aS,6aS,6bR,8aR,12aR,14aR,14bS)-4,4,6a,6b,8a,11,11,14a-octamethyl-2,6,6a,7,8,9,10,12,12a,13,14,14b-dodecahydro-1H-picen-3-one	13.64	0.77
MOL005752	[(4R)-4-isopropenyl-1-cyclohexenyl]methanol	49.01	0.03
MOL000608	()-Terpinen-4-ol	81.41	0.03
MOL000611	beta-Bourbonene	16.98	0.11
MOL000612	(-)-alpha-cedrene	55.56	0.1
MOL000615	delta-amorphene	17.95	0.08
MOL000674	Farnesol acetate	21.97	0.11
MOL000676	DBP	64.54	0.13
MOL000709	(S)-Matsutake alcohol	40.11	0.01
MOL000714	Hyacinthin	38.65	0.02
MOL000775	EEE	45.02	0
MOL000777	(2S)-2-methylbutan-1-ol	81.23	0
MOL000890	(+)-alpha-Curcumene	26.56	0.06
MOL000911	Terpilene	33.95	0.02
MOL000913	tricyclene	36.11	0.07
MOL000968	beta-Bisabolene	29.59	0.06
MOL000971	Ethylpalmitate	18.99	0.14
MOL000974	cuminal	38.29	0.03
MOL000098	quercetin	46.43	0.28

Table S2 Breast cancer-related gene results in GeneCards

Gene Symbol	GeneCards Link
BRCA2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BRCA2
BRCA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BRCA1
TP53	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TP53
PALB2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PALB2
CHEK2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CHEK2
CDH1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDH1
ATM	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ATM
BRIP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BRIP1
ERBB2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERBB2
MSH6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MSH6
MSH2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MSH2
APC	https://www.genecards.org/cgi-bin/carddisp.pl?gene=APC
PTEN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTEN
MLH1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MLH1
BARD1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BARD1
ESR1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ESR1
EGFR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EGFR
PIK3CA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PIK3CA
RAD51D	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD51D
PMS2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PMS2
AKT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AKT1
CDKN2A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDKN2A
RAD51C	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD51C
NBN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NBN
KRAS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRAS
STK11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=STK11
CCND1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCND1
NF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NF1
SMAD4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMAD4
RAD50	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD50
CTNNB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CTNNB1
AR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AR
VEGFA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VEGFA
MYC	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MYC
BRAF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BRAF

Table S2 (*continued*)

Table S2 (continued)

Gene Symbol	GeneCards Link
POLE	https://www.genecards.org/cgi-bin/carddisp.pl?gene=POLE
CYP19A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CYP19A1
MRE11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MRE11
CDK4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDK4
RB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RB1
HRAS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HRAS
FGFR2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGFR2
MDM2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MDM2
CDKN1B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDKN1B
CDKN1A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDKN1A
RAD51	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD51
TERT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TERT
TGFBR2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TGFBR2
TGFB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TGFB1
IL6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IL6
EGF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EGF
MET	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MET
STAT3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=STAT3
TNF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TNF
CASP8	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CASP8
MTOR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MTOR
BAX	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BAX
ESR2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ESR2
NOTCH1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NOTCH1
FAS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FAS
IGF2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IGF2
MIR21	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR21
TP63	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TP63
PGR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PGR
FGFR1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGFR1
CXCR4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CXCR4
AXIN2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AXIN2
KIT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KIT
EP300	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EP300
RAD51L3-RFFL	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD51L3-RFFL

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
EPCAM	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EPCAM
SRC	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SRC
AURKA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AURKA
XRCC3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=XRCC3
NRAS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NRAS
ERCC2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERCC2
FGFR3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGFR3
PLAU	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PLAU
EZH2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EZH2
ALK	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ALK
RET	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RET
BCL2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCL2
SMARCA4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMARCA4
TWIST1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TWIST1
MGMT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MGMT
BAP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BAP1
NFKB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NFKB1
RAF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAF1
PIK3R1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PIK3R1
TYMS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TYMS
PPARG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PPARG
IL10	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IL10
FHIT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FHIT
AKT2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AKT2
TOP2A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TOP2A
MUC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MUC1
MMP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP1
PRLR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRLR
MTHFR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MTHFR
CXCL12	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CXCL12
DNMT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DNMT1
PDGFRB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PDGFRB
STAT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=STAT1
ATR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ATR
TGFBR1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TGFBR1

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
INS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=INS
MIR34A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR34A
TYMP	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TYMP
TSC2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TSC2
BMPR1A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BMPR1A
RELA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RELA
SMAD3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMAD3
FLT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FLT1
H19	https://www.genecards.org/cgi-bin/carddisp.pl?gene=H19
MAP2K1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAP2K1
MIR145	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR145
MUTYH	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MUTYH
WT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=WT1
ERBB4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERBB4
PPM1D	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PPM1D
CHEK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CHEK1
GLI1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GLI1
XIAP	https://www.genecards.org/cgi-bin/carddisp.pl?gene=XIAP
LEP	https://www.genecards.org/cgi-bin/carddisp.pl?gene=LEP
SPP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SPP1
MIR17	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR17
SNAI2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SNAI2
GNAS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GNAS
MIR146A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR146A
IDH1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IDH1
ERCC6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERCC6
CYP1B1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CYP1B1
CYP17A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CYP17A1
TNFRSF10B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TNFRSF10B
SLC2A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SLC2A1
ERCC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERCC1
MIR155	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR155
MIR27A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR27A
IGF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IGF1
HSPB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HSPB1

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
VDR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VDR
MIR221	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR221
XRCC2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=XRCC2
JAK2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=JAK2
CDKN3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDKN3
ZEB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ZEB1
PHB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PHB
FGFR4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGFR4
MIR143	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR143
PTGS2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTGS2
C11orf65	https://www.genecards.org/cgi-bin/carddisp.pl?gene=C11orf65
KRT5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT5
DICER1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DICER1
SOX2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SOX2
PDGFRA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PDGFRA
TGFB2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TGFB2
CASP3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CASP3
MSH3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MSH3
MIR31	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR31
WWOX	https://www.genecards.org/cgi-bin/carddisp.pl?gene=WWOX
IRS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IRS1
AKT3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AKT3
NF2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NF2
MIR125A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR125A
TCF7L2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TCF7L2
MIR200C	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR200C
TP73	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TP73
PTPN11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTPN11
MIR222	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR222
IGF1R	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IGF1R
FASLG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FASLG
MMP9	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP9
SMAD7	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMAD7
MIR200A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR200A
ABCG2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABCG2

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
MMP2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP2
MAPK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAPK1
MIR126	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR126
MIR205	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR205
GNRH1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GNRH1
CREB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CREB1
DPYD	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DPYD
TSC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TSC1
NTRK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NTRK1
POLD1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=POLD1
FOXP3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOXP3
MIR141	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR141
CCL2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCL2
PDCD1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PDCD1
FH	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FH
HIF1A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HIF1A
GATA3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GATA3
MIR200B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR200B
GJA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GJA1
AHR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AHR
NOS2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NOS2
MIR182	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR182
MIR10B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR10B
NKX2-1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NKX2-1
ODC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ODC1
WNT5A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=WNT5A
KRT14	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT14
COMT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=COMT
RAD54L	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD54L
KLLN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KLLN
ABCB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABCB1
ABL1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABL1
MIR20A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR20A
ABRAXAS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABRAXAS1
RARA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RARA

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
YAP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=YAP1
BMP2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BMP2
GSTP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GSTP1
FOXO1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOXO1
JUN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=JUN
KLK3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KLK3
KISS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KISS1
MIR335	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR335
CAT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CAT
BIRC5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BIRC5
MAP3K1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAP3K1
MIR195	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR195
ERBB3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERBB3
CTSD	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CTSD
GSTM1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GSTM1
PDGFB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PDGFB
PIK3R2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PIK3R2
MIR203A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR203A
FGF8	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGF8
WNT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=WNT1
BUB1B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BUB1B
MIR148A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR148A
MIR181A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR181A1
SOS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SOS1
MAD1L1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAD1L1
CD44	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CD44
TFF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TFF1
MAP2K2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAP2K2
SLC22A18	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SLC22A18
ETS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ETS1
MIR210	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR210
CDKN2B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDKN2B
CYP2D6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CYP2D6
MEN1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MEN1
MIR183	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR183

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
CXCL8	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CXCL8
TFAP2A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TFAP2A
EDNRA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EDNRA
HMMR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HMMR
MKI67	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MKI67
RB1CC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RB1CC1
ABCC2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABCC2
IL1B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IL1B
MIR22	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR22
IGF2R	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IGF2R
PRKCD	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRKCD
ETV6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ETV6
STAT5B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=STAT5B
MIR29C	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR29C
IFNG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IFNG
PARP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PARP1
HDAC4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HDAC4
ABCC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABCC1
NOTCH3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NOTCH3
XRCC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=XRCC1
CD274	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CD274
IGFBP3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IGFBP3
MIR127	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR127
MIR96	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR96
MIR204	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR204
KITLG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KITLG
CDK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDK1
RUNX2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RUNX2
MIR373	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR373
MIR30E	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR30E
NTRK3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NTRK3
CDKN2C	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDKN2C
CYP1A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CYP1A1
NCOA3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NCOA3
INSR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=INSR

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
ING1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ING1
MIR18A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR18A
MIR191	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR191
TGFA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TGFA
JAG1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=JAG1
CSF3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CSF3
CDK2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDK2
PRKACA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRKACA
STS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=STS
ETV4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ETV4
CASP9	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CASP9
MIRLET7D	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIRLET7D
FGF2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGF2
CTNNA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CTNNA1
TNFSF10	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TNFSF10
MAPK8	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAPK8
MIR146B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR146B
HFE	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HFE
KDR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KDR
GRN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GRN
BDNF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BDNF
BCL2L1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCL2L1
TACC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TACC1
BCAR3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCAR3
SP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SP1
NOTCH2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NOTCH2
CAV1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CAV1
VEGFC	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VEGFC
MIR199B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR199B
IL2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IL2
MIR342	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR342
CDC6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDC6
SOX4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SOX4
KCNQ1OT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KCNQ1OT1
MAPK3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAPK3

Table S2 (continued)

Table S2 (*continued*)

Gene Symbol	GeneCards Link
RRAS2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RRAS2
PTCH1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTCH1
EPOR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EPOR
BCAR1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCAR1
RASSF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RASSF1
E2F1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=E2F1
PTK2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTK2
FOXC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOXC1
KRT19	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT19
NRG1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NRG1
VWF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VWF
REST	https://www.genecards.org/cgi-bin/carddisp.pl?gene=REST
NGF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NGF
CEACAM5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CEACAM5
HMGA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HMGA1
MSR1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MSR1
PML	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PML
CDK6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDK6
LHCGR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=LHCGR
MIR451A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR451A
PLAUR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PLAUR
NQO1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NQO1
FANCD2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FANCD2
MMP14	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP14
MIR206	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR206
HGF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HGF
SEMA3A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SEMA3A
MIAT	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIAT
MIR29B2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR29B2
DDR2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DDR2
PSEN2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PSEN2
CBFB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CBFB
MIR128-2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR128-2
MIR122	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR122
TLR4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TLR4

Table S2 (*continued*)

Table S2 (*continued*)

Gene Symbol	GeneCards Link
MYLK	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MYLK
PCNA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PCNA
SDHB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SDHB
MIR193B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR193B
CCNE1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCNE1
CCNA2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCNA2
MIRLET7I	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIRLET7I
MIR152	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR152
RHOA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RHOA
MIR181B1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR181B1
CIB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CIB1
CCNB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCNB1
MIR320A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR320A
BMP6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BMP6
NTRK2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NTRK2
CYCS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CYCS
ATF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ATF1
RAD21	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD21
PROM1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PROM1
FOS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOS
PRKAR1A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRKAR1A
KRT17	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT17
PTHLH	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTHLH
GMNN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GMNN
VIM	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VIM
NQO2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NQO2
SOD2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SOD2
MIR142	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR142
IRS2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IRS2
MIR429	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR429
PRKCA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRKCA
SF3B1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SF3B1
HDAC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HDAC1
BRMS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BRMS1
ENG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ENG

Table S2 (*continued*)

Table S2 (continued)

Gene Symbol	GeneCards Link
MAPK14	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MAPK14
SMAD2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMAD2
LIMK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=LIMK1
NAT2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NAT2
MIR499A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR499A
RRAS	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RRAS
DKC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DKC1
HSP90AA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HSP90AA1
MIRLET7A3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIRLET7A3
TIMP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TIMP1
FBXW7	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FBXW7
KRT7	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT7
MIR181A2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR181A2
MYH9	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MYH9
FN1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FN1
ABCC11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABCC11
CCND2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCND2
SNAI1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SNAI1
RARB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RARB
MTUS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MTUS1
GSK3B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GSK3B
ICAM1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ICAM1
GREB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GREB1
LOC111589215	https://www.genecards.org/cgi-bin/carddisp.pl?gene=LOC111589215
RAC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAC1
MIR214	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR214
MIR196A2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR196A2
PLK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PLK1
MIRLET7A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIRLET7A1
WRN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=WRN
NUP214	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NUP214
RPS6KB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RPS6KB1
MCL1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MCL1
NME1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NME1
PIK3CG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PIK3CG

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
CSF2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CSF2
TIMP3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TIMP3
BAK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BAK1
PRL	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRL
GPB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GPB1
KRT20	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT20
SERPINE1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SERPINE1
KRT18	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT18
TOP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TOP1
SNCG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SNCG
MIR98	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR98
MMP7	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP7
MIR223	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR223
PLCB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PLCB1
AREG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AREG
EHMT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EHMT1
NFE2L2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NFE2L2
ECM1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ECM1
PTPN3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PTPN3
RPS6KA3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RPS6KA3
DNMT3A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DNMT3A
NR3C2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NR3C2
HOTAIR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HOTAIR
MACF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MACF1
TIMP2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TIMP2
AXL	https://www.genecards.org/cgi-bin/carddisp.pl?gene=AXL
MIR193A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR193A
ABCA3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ABCA3
MLH3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MLH3
ITGB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ITGB1
THBS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=THBS1
RAP1A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAP1A
PRMT7	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRMT7
FASN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FASN
SERPINB5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SERPINB5

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
MIR128-1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR128-1
FLT4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FLT4
IFI27	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IFI27
BMI1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BMI1
GADD45A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GADD45A
EPHA4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EPHA4
KRT8	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KRT8
MIR328	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR328
SMAD6	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMAD6
VEGFD	https://www.genecards.org/cgi-bin/carddisp.pl?gene=VEGFD
OGG1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=OGG1
HSPB8	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HSPB8
SHBG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SHBG
SKP2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SKP2
PMS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PMS1
DNMT3B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DNMT3B
GRP	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GRP
CTLA4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CTLA4
MALAT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MALAT1
MIR140	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR140
GRB2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GRB2
MTA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MTA1
HERC2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HERC2
FOXA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOXA1
PVT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PVT1
PIP	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PIP
BAD	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BAD
MIR106B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR106B
SIRT1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SIRT1
ALDH1A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ALDH1A1
TERC	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TERC
MIR29A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR29A
MIR100	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR100
ANXA5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ANXA5
MMP3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP3

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
ERCC4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERCC4
CDC42	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDC42
E2F3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=E2F3
MIR9-3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR9-3
KLK10	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KLK10
BMP4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BMP4
FGF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGF1
PIK3CB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PIK3CB
FOXO3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOXO3
LGALS3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=LGALS3
HDAC9	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HDAC9
FOXM1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FOXM1
SHC1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SHC1
CDH2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDH2
POU5F1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=POU5F1
BCAS1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCAS1
NFKBIA	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NFKBIA
TNFSF11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TNFSF11
RAD51B	https://www.genecards.org/cgi-bin/carddisp.pl?gene=RAD51B
PRKN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PRKN
MIR30A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR30A
CD24	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CD24
CA9	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CA9
HSPA5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HSPA5
MIR150	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR150
TSG101	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TSG101
FLCN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FLCN
BECN1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BECN1
KEAP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=KEAP1
SETD2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SETD2
ADIPOQ	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ADIPOQ
IL1RN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IL1RN
BCAR4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCAR4
UCA1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=UCA1
CCND3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CCND3

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
HBEGF	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HBEGF
MIR34C	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR34C
ZEB2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ZEB2
BIRC3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BIRC3
IDH2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=IDH2
CD40LG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CD40LG
CASP7	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CASP7
EZR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EZR
ERCC5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ERCC5
MIR502	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR502
SDHD	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SDHD
BSG	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BSG
MIR520C	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR520C
S100A4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=S100A4
JAK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=JAK1
DIRC3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=DIRC3
HMGA2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HMGA2
GNRHR	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GNRHR
ST14	https://www.genecards.org/cgi-bin/carddisp.pl?gene=ST14
MIR199A1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR199A1
NRP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NRP1
XBP1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=XBP1
CTSB	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CTSB
SMARCB1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=SMARCB1
EPHA2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=EPHA2
CREBBP	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CREBBP
CLU	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CLU
TOX3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TOX3
HSPA4	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HSPA4
BCL2L11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=BCL2L11
MYCN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MYCN
CSF1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CSF1
MIR25	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR25
HOXB13	https://www.genecards.org/cgi-bin/carddisp.pl?gene=HOXB13
GAS5	https://www.genecards.org/cgi-bin/carddisp.pl?gene=GAS5

Table S2 (continued)

Table S2 (continued)

Gene Symbol	GeneCards Link
CD40	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CD40
MMP11	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MMP11
NR1H2	https://www.genecards.org/cgi-bin/carddisp.pl?gene=NR1H2
CDC25A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=CDC25A
FGF3	https://www.genecards.org/cgi-bin/carddisp.pl?gene=FGF3
MIR661	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR661
POSTN	https://www.genecards.org/cgi-bin/carddisp.pl?gene=POSTN
MIR483	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR483
YBX1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=YBX1
PAK1	https://www.genecards.org/cgi-bin/carddisp.pl?gene=PAK1
MIR99A	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MIR99A
MUC16	https://www.genecards.org/cgi-bin/carddisp.pl?gene=MUC16
TEK	https://www.genecards.org/cgi-bin/carddisp.pl?gene=TEK

Table S3 Breast cancer-related gene results in OMIM

Cytogenetic location	Gene/Locus	Gene/Locus MIM number
1p36.13	PLA2G2A, PLA2B, PLA2L, MOM1	172411
1p36.12	EPHB2, EPHT3, DRT, ERK, PCBC, CAPB, BDPLT22	600997
1p34.2	PTPRF, LAR, BNAH2	179590
1p34.1	MUTYH, MYH	604933
1p34.1	RAD54L, HR54, HRAD54	603615
1p22.1	BCAR3, SH2D3B, NSP2	604704
1p13.2	BCAS2, DAM1	605783
1p13.2	NRAS, ALPS4, NS6, CMNS, NCMS	164790
1q21.2	FALEC, FAL1	616092
1q24.3	FASLG, TNFSF6, APT1LG1, FASL, ALPS1B	134638
1q25.3	RNASEL, RNS4, PRCA1, HPC1	180435
1q32.1	BLACAT1, LINC00912	615480
1q42.2-q43	PCAP	602759
1q43	FH, HLRCC, MCUL1, FMRD	136850
1q43-q44	SDCCAG8, CCCAP, SLSN7, BBS16	613524
2p24.3	GACAT3, LINC01458	616132
2p21	EPCAM, ACSTD1, TROP1, M4S1, MIC18, DIAR5, HNPCC8	185535
2p21-p16	MSH2, COCA1, FCC1, HNPCC1	609309

Table S3 (continued)

Table S3 (continued)

Cytogenetic location	Gene/Locus	Gene/Locus MIM number
2p16.3	MSH6, GTBP, HNPCC5	600678
2p15	EHBP1, KIAA0903, HPC12	609922
2q12.2	C2orf40, ECRG4	611752
2q13	BUB1	602452
2q14.1	IL1B	147720
2q14.1	IL1RN, MVCD4, DIRA	147679
2q31.3	SCHLAP1, PCAT114, LINC00913	615568
2q32.2	DIRC1	606423
2q33.1	CASP10, MCH4, ALPS2	601762
2q33.1	CASP8, MCH5, ALPS2B	601763
2q35	BARD1	601593
3p24.1	TGFBR2, HNPCC6, AAT3, MFS2, LDS2	190182
3p22.2	MLH1, COCA2, HNPCC2	120436
3p22.2	DLEC1, DLC1	604050
3p22.1	CTNNB1, NEDSDV, EVR7	116806
3q13.33	RABL3, PNCA5	618542
3q23	ATR, FRP1, SCKL1, FCTCS	601215
3q26.32	PIK3CA, CLOVE, MCAP, MCM, MCMTC, CWS5, CLAPO	171834
3q27.1	EIF4G1, EIF4G, PARK18	600495
4p16.3	FGFR3, ACH	134934
4q21.21	PCAT4, GDEP	609717
4q23	ADH1B, ADH2	103720
4q31.3	TLR2, TIL4	603028
4q32.3	PALLD, KIAA0992, PNCA1	608092
4q35.1	KMHN1	609488
5p13.2	PRLR, MFAB, HPRL	176761
5p13.1	DAB2, DOC2	601236
5q14.3	LUCAT1, SCAL1	618190
5q22.2	APC, GS, FPC, BTPS2, DESMD	611731
5q22.2	MCC	159350
5q31.1	IRF1, MAR	147575
5q34	HMMR	600936
5q35.2	FGFR4	134935
6p25.2	NQO2, NMOR2	160998
6p24.3	CTAG3, CAGE1	608304

Table S3 (continued)

Table S3 (continued)

Cytogenetic location	Gene/Locus	Gene/Locus MIM number
6p24.3	HULC	612210
6p22.3	CASC15, LINC00340	616610
6q23.3	PBOV1, UROC28, UC28	605669
6q24.3-q25.1	SASH1, KIAA0790, CAPOK, DUH1	607955
6q25.1-q25.2	ESR1, ESR, ESTRR	133430
6q26	PRKN, PARK2, PDJ	602544
7p22.3	MAD1L1, TXBP181	602686
7p22.1	PMS2, PMSL2, HNPCC4	600259
7p21.1	MACC1	612646
7p11.2	EGFR, NISBD2	131550
7p11.2	VOPP1, ECOP, GASP	611915
7q11.23	PTPN12, PTPG1	600079
7q31.2	ST7, TSG7, RAY1, FAM4A1	600833
7q34	BRAF, NS7	164757
8p22	DLC1	604258
8p22	PDGFRL, PDGRL, PRLTS	604584
8q11.23	RB1CC1, CC1, KIAA0203	606837
8q22.1	RAD54B	604289
8q24.21	PCAT1	616043
8q24.21	PCAT2, PCA2, CARLO4	617678
8q24.21	PRNCR1, PCAT8	615452
8q24.21	CASC19, LINC01245, CARLO6	617703
8q24.21	CCAT1, CARLO5	617705
8q24.21	CASC21, LINC01244, CARLO2	617702
8q24.21	CASC8, LINC00860, CARLO1	617701
8q24.21	CASC11, LINC00990, CARLO7	617704
9p21.3	CDKN2A, MTS1, P16, MLM, CMM2	600160
9q21.2	PCA3, DD3	604845
9q22.33	FOXE1, FKHL15, TITF2, TTF2, NMTC4	602617
9q22.33	GALNT12, CRCS1	610290
9q33.1	DEC1	604767
10p15.2	KLF6, COPEB, BCD1, ZF9	602053
10p11.23	MAP3K8, COT, EST, TPL2	191195
10q11.22	MSMB, HPC13	157145
10q11.23	ERCC6, CKN2, COFS1, CSB, ARMD5, UVSS1, POF11	609413

Table S3 (continued)

Table S3 (continued)

Cytogenetic location	Gene/Locus	Gene/Locus MIM number
10q23.2	SNCG, BCSG1	602998
10q23.31	PTEN, MMAC1, GLM2, CWS1	601728
10q25.2	MXI1	600020
10q25.3	HABP2, PHBP, HGFAL, FSAP, NMTC5	603924
10q26.11	CASC2	608598
10q26.13	FGFR2, BEK, CFD1, JWS, TK14, BBDS	176943
11p15.5	HRAS	190020
11p15.4	SLC22A1L, BWSCR1A, IMPT1	602631
11p11.2	PTPRJ, DEP1	600925
11q13.3	CCND1, PRAD1, BCL1	168461
11q13.3	ORAOV1, TAOS1	607224
11q13.3	CTTN, EMS1	164765
11q22.3	ATM, ATA, AT1	607585
11q23.1	COLCA1	615693
11q23.1	COLCA2	615694
11q23.1	PPP2R1B	603113
11q24.2	HEPN1	611641
11q25	OPCML	600632
12p12.1	CASC1, LAS1, PPP1R54	616906
12p12.1	KRAS, KRAS2, RASK2, NS, CFC2, RALD, OES	190070
12q13.13	ACVR1B, ACVRLK4, ALK4	601300
12q13.2	SBEM	610857
12q14.2	SRGAP1, KIAA1304, NMTC2	606523
12q24.12	ALDH2	100650
12q24.31	CDK2AP1, DOC1	602198
12q24.33	POLE, CRCS12, FILS, IMAGEI	174762
13q13.1	BRCA2, FANCD1, BROVCA2, GLM3, PNCA2	600185
13q14.2	RB1	614041
14q13.3	NKX2-1, TITF1, NKX2A, TTF1, NMTC1	600635
14q24.3	MLH3, HNPCC7	604395
14q32.33	XRCC3, CMM6	600675
14q32.33	AKT1, CWS6	164730
15q15.1	BUB1B, BUBR1, MVA1	602860
15q15.1	RAD51, RECA, MRMV2, FANCR	179617
15q23	PCAT29	616273

Table S3 (continued)

Table S3 (continued)

Cytogenetic location	Gene/Locus	Gene/Locus MIM number
15q25.1	CHRNA5, LNCR2	118505
15q25.1	CHRNA3, LNCR2, PAOD2, BAIPRCK	118503
15q26.1	IQGAP1, SAR1	603379
16p13.13	BCAR4	613746
16p12.2	PALB2, FANCN, PNCA3	610355
16q22.1	CDH1, UVO, LCAM, ECAD, BCDS1	192090
16q22.1	NQO1, DIA4, NMOR1	125860
16q22.2-q22.3	ZFH3, ATBF1	104155
16q23.1	BCAR1, CRKAS, CAS	602941
17p13.3	OVCA2	607896
17p13.3	HIC1	603825
17p13.1	TP53, P53, LFS1, BCC7, BMFS5	191170
17p12	ELAC2, HPC2, COXPD17	605367
17p11.2	FLCN, BHD	607273
17q12	RAD51D, RAD51L3, BROVCA4	602954
17q12	ERBB2, NGL, NEU, HER2	164870
17q21.31	BRCA1, PSCP, BROVCA1, PNCA4, FANCS	113705
17q21.32	HOXB13, HPC9	604607
17q21.33	PHB	176705
17q22	MPO	606989
17q22	RNF43, RNF124, SSPCS	612482
17q22	RAD51C, FANCO, BROVCA3	602774
17q23.2	PPM1D, WIP1, JDVS	605100
17q23.2	BRIP1, BACH1, FANCF	605882
17q24.1	AXIN2, ODCRCS	604025
17q25.1	RHBDF2, IRHOM2, TOC	614404
18p11.22	GACAT2, MTCL1AS1	616131
18q11.2	PCAT18, LINC01092	617647
18q21.1	SMAD7, MADH7, CRCS3	602932
18q21.2	SMAD4, MADH4, DPC4, JIP, MYHRS	600993
18q21.2	DCC, MRMV1, HGPPS2	120470
19p13.3	STK11, PJS, LKB1	602216
19p13.12	UCA1, LINC00178, CUDR	617500
19q13.2	CYP2A6, CYP2A3, CYP2A, P450C2A	122720
19q13.2	PCAT19, LINC01190	618192

Table S3 (continued)

Table S3 (*continued*)

Cytogenetic location	Gene/Locus	Gene/Locus MIM number
19q13.33	BAX	600040
19q13.33	POLD1, CRCS10, MDPL	174761
20q11.21	BASE	607627
20q11.23	SRC, ASV, SRC1, THC6	190090
20q11.23	BLCAP, BC10	613110
20q13.12	NCOA3, AIB1, TNRC14	601937
20q13.13	BCAS4	607471
20q13.2	BCAS1, NABC1	602968
20q13.2	AURKA, STK15, AURORA2, BTAK, ARK1, STK6, AIK	603072
21q22.3	TFF1, BCEI	113710
22q11.21	HIC2, HRG22, KIAA1020	607712
22q12.1	CHEK2, RAD53, CHK2, CDS1, LFS2	604373