

Primers used in the qRT-PCR for verification of
COBRA1/BRCA1-regulated genes.

Gene Symbol	LPE.1vs4	pvalue.1vs4	LPE.1vs2	pvalue.1vs2	LPE.1vs3	pvalue.1vs3
IFITM1	-14.1755	0	-8.5772	0	-4.1082	0
MX1	-14.7596	0	-10.9318	0	-3.9117	0.0001
IFI27	-10.5628	0	-7.4698	0	-4.1002	0
IFITM1	-10.9131	0	-7.3016	0	-4.129	0
IFIT1	-6.6519	0	-4.9001	0	-1.627	0.1037
G1P2	-14.6698	0	-10.9304	0	-2.5434	0.011
ISGF3G	-7.1744	0	-5.6185	0	-3.3232	0.0009
G1P3	-10.4834	0	-9.0281	0	-5.4383	0
STAT1	-4.8983	0	-3.7799	0.0002	0.5583	0.5766
IER3	7.6221	0	6.1108	0	-1.1233	0.2613
MTHFD2	3.6222	0.0003	4.5735	0	-0.1135	0.9097
STC2	5.268	0	4.5518	0	-1.1138	0.2654
PIP	-9.3263	0	-11.5108	0	-2.316	0.0206
ATP2A3	-3.5911	0.0003	-4.5553	0	1.471	0.1413
UCP2	-4.0448	0.0001	-3.3717	0.0007	0.2397	0.8106
SERPINA1	-4.6465	0	-4.8578	0	0.0127	0.9899
HLA-G	-5.4875	0	-4.1968	0	-0.4975	0.6188
K-ALPHA-1	4.1211	0	4.7641	0	1.0386	0.299
HLA-C	-3.0994	0.0019	-4.5071	0	1.6832	0.0923
APP	-7.5956	0	-5.3694	0	-2.0074	0.0447
FLJ22329	3.558	0.0004	3.5758	0.0003	-0.2709	0.7865
NGLY1	3.9732	0.0001	4.3812	0	0.5758	0.5648
TFF3	-8.6995	0	-0.6241	0.5326	-5.105	0
GAGE7B	-5.8	0	-1.0015	0.3166	-12.6051	0
GAGE4	-4.0401	0.0001	0.9481	0.3431	-10.8399	0
CRABP2	-5.8362	0	3.1696	0.0015	-4.755	0
TYMS	8.4804	0	4.624	0	8.9655	0
SATB1	-5.5178	0	3.0205	0.0025	-5.9259	0
HIST2H2AA	-7.7193	0	-3.1087	0.0019	-10.3951	0
EPRS	-4.4249	0	-0.3252	0.7451	-5.4163	0
PPIB	5.5063	0	0.0819	0.9348	4.2679	0
TXNIP	-4.0466	0.0001	0.6781	0.4977	-3.352	0.0008
TXNIP	-4.3482	0	0.4476	0.6544	-3.7296	0.0002
NPEPPS	4.33	0	0.345	0.7301	6.4491	0
APOD	-9.2781	0	-1.221	0.2221	-8.2544	0
TIMP1	-8.2066	0	-0.0369	0.9706	-6.7933	0
EPHX1	-5.2324	0	-0.2707	0.7866	-5.0305	0
MGP	-8.3168	0	1.0209	0.3073	-6.3136	0
EEF1A2	-7.7679	0	-1.6057	0.1083	-6.1427	0
SPINK5	7.0054	0	1.4439	0.1488	8.5459	0
H3F3A	-3.7828	0.0002	-0.476	0.6341	-6.2442	0
SNCG	-8.0425	0	-2.2512	0.0244	-6.178	0
RNU2	-6.4905	0	-2.3734	0.0176	-5.9621	0
PTGES	-4.347	0	2.6299	0.0085	-5.0214	0
KYNU	-4.3053	0	-0.3129	0.7544	-3.719	0.0002
JMJD2B	-5.1267	0	0.5319	0.5948	-3.156	0.0016
C14orf32	5.7752	0	1.402	0.1609	5.8011	0
AKIP	-6.2253	0	-1.5206	0.1284	-4.8151	0

H3F3A	-3.9306	0.0001	-0.588	0.5565	-5.2869	0
FXYD5	-5.7303	0	-0.669	0.5035	-4.6606	0
WDR26	-4.2415	0	1.3079	0.1909	-3.6013	0.0003
CLDN1	-5.4451	0	0.3074	0.7586	-3.7811	0.0002
HIST2H2AA	-4.7909	0	-0.9487	0.3428	-6.9715	0
BST2	-8.5562	0	-3.9779	0.0001	-3.506	0.0005
UBE2L6	-8.9547	0	-5.0211	0	-5.4296	0
CKS2	9.4579	0	4.5381	0	4.8534	0
DUT	8.1509	0	3.2145	0.0013	4.7958	0
ANXA2	6.3201	0	-0.8261	0.4088	2.6459	0.0081
GNAS	5.298	0	1.4687	0.1419	-2.1418	0.0322
IFITM3	-11.4892	0	-4.3978	0	-4.9882	0
HLA-A	-7.1662	0	-3.2956	0.001	-3.1851	0.0014
EEF1B2	9.0793	0	3.4528	0.0006	2.8183	0.0048
ITM1	7.667	0	3.0112	0.0026	2.9517	0.0032
OAS1	-5.2054	0	-3.3969	0.0007	-1.9494	0.0513
CD74	-8.2633	0	-3.1893	0.0014	-2.0631	0.0391
SUI1	6.3229	0	3.1634	0.0016	0.2449	0.8065
OAS3	-7.6689	0	-3.1588	0.0016	0.1862	0.8523
HLA-DRB4	-6.0063	0	-2.2518	0.0243	-3.1198	0.0018
APLP1	-5.4628	0	-2.7557	0.0059	-3.3443	0.0008
BCAS4	6.5257	0	0.7093	0.4781	3.4672	0.0005
MYO5C	6.8806	0	0.3165	0.7516	3.2423	0.0012
ACTG1	7.2735	0	2.1311	0.0331	3.8778	0.0001
RPS11	3.8734	0.0001	0.4539	0.6499	0.2126	0.8316
NPM1	7.1922	0	2.9466	0.0032	2.587	0.0097
RPL4	7.737	0	2.9348	0.0033	2.3496	0.0188
UBB	4.9987	0	0.6443	0.5194	2.2791	0.0227
GNB2L1	4.3508	0	0.3328	0.7393	0.7958	0.4261
RPL23	4.4234	0	0.8332	0.4048	1.0435	0.2967
BTG1	4.603	0	-1.2726	0.2032	-1.0702	0.2845
CALR	-7.8525	0	-0.8415	0.4001	-0.6773	0.4982
MLF2	-5.0706	0	-1.2458	0.2129	-1.9319	0.0534
GNAI2	-5.0284	0	0.4368	0.6622	-0.7058	0.4803
RPL4	5.8772	0	2.1684	0.0301	0.408	0.6833
RPS6	4.1486	0	1.2534	0.2101	1.1924	0.2331
IFITM2	-5.8855	0	-2.226	0.026	-1.7563	0.079
IGFBP4	-3.2588	0.0011	2.2275	0.0259	2.2342	0.0255
TOMM70A	4.2953	0	0.6471	0.5176	0.3646	0.7154
ANXA2	4.0708	0	-1.0359	0.3002	-0.2259	0.8213
RPS17	4.9122	0	1.9759	0.0482	0.9357	0.3494
SLC29A1	-4.1102	0	0.4397	0.6602	1.0821	0.2792
FLJ12443	-3.6674	0.0002	0.1496	0.8811	-0.1408	0.888
EFEMP1	7.3151	0	1.4723	0.1409	2.7531	0.0059
IMPDH2	6.0397	0	1.2875	0.1979	1.7572	0.0789
RPL38	3.1097	0.0019	-0.6353	0.5253	-1.3558	0.1752
UQCR	3.754	0.0002	0.2641	0.7917	-0.682	0.4952
CABIN1	-3.61	0.0003	0.5156	0.6061	-0.1109	0.9117
PRKACA	-4.3892	0	0.7982	0.4248	-0.011	0.9912

GAA	-6.5176	0	-1.8776	0.0604	-1.5573	0.1194
LTBR	-3.6538	0.0003	1.3421	0.1796	0.7695	0.4416
LU	-5.6977	0	0.378	0.7055	1.9735	0.0484
RPL27A	4.4969	0	1.2524	0.2104	1.444	0.1487
EEF1D	5.7487	0	1.6572	0.0975	1.964	0.0495
TP53I11	-6.9049	0	-2.2257	0.026	-2.3539	0.0186
IGFBP5	-3.4182	0.0006	1.7961	0.0725	1.0661	0.2864
LPHN1	-3.739	0.0002	-0.2138	0.8307	0.2473	0.8047
TLL3	-5.2799	0	-1.8201	0.0688	-1.2406	0.2148
VEGFB	-3.1334	0.0017	1.0041	0.3153	1.1438	0.2527
RNF110	-4.6612	0	0.5327	0.5942	0.1868	0.8518
ACK1	-7.546	0	-0.154	0.8776	-1.9377	0.0527
GPR56	-4.9656	0	-0.5626	0.5737	-1.598	0.1101
PTK7	-3.1457	0.0017	1.2767	0.2017	0.8766	0.3807
MSF	-4.3007	0	-0.1557	0.8762	-0.3022	0.7625
SRRM2	-4.4155	0	1.1336	0.257	0.2789	0.7803
TNFRSF1A	-4.9453	0	-1.8227	0.0684	0.4938	0.6215
NA	6.2689	0	2.5802	0.0099	2.5836	0.0098
MUC1	-9.0903	0	-0.1023	0.9185	-0.0476	0.9621
DDR1	-4.3767	0	-0.4709	0.6377	0.1528	0.8785
RPLP0	5.2611	0	2.2091	0.0272	0.678	0.4978
DRPLA	-3.9373	0.0001	-0.3658	0.7145	-0.219	0.8266
CYCS	6.796	0	2.1284	0.0333	2.3713	0.0177
ABCA2	-6.3478	0	0.0891	0.929	0.0049	0.9961
PNN	5.2279	0	-0.2302	0.8179	0.7857	0.4321
HMGA1	-4.2082	0	-0.0637	0.9492	-0.6252	0.5318
PTPRU	-4.7117	0	-1.0648	0.287	0.061	0.9514
RPL4	4.8216	0	0.9026	0.3668	-0.6618	0.5081
ACTG1	5.8924	0	1.2005	0.2299	1.4994	0.1338
GRINA	-6.4965	0	-1.2867	0.1982	-2.595	0.0095
POM121	-3.1115	0.0019	1.78	0.0751	1.1382	0.255
FASN	-3.9827	0.0001	1.8399	0.0658	0.9904	0.322
ACTG1	4.5253	0	1.2416	0.2144	0.9348	0.3499
ACTG1	7.811	0	1.4808	0.1386	2.6122	0.009
ANXA2	5.1768	0	-1.9212	0.0547	-0.0403	0.9678
HNRPH1	4.9637	0	0.52	0.6031	0.9868	0.3237
C6orf62	4.273	0	-0.7601	0.4472	0.6349	0.5255
CTBP1	5.3969	0	0.482	0.6298	0.3048	0.7606
TP53I11	-7.5844	0	-1.0006	0.317	-1.0826	0.279
EVER1	-3.3349	0.0009	0.8944	0.3711	1.8323	0.0669
DSCR1	3.194	0.0014	0.0215	0.9829	-0.4765	0.6337
HLA-A	-7.7553	0	-2.6012	0.0093	-0.6419	0.521
BACH	-3.3577	0.0008	0.8804	0.3787	1.6882	0.0914
PRRX1	-3.711	0.0002	0.2452	0.8063	1.4968	0.1344
ATP5E	4.4422	0	0.6184	0.5363	0.8057	0.4204
C20orf149	-5.8388	0	0.1856	0.8528	0.1811	0.8563
FLJ13725	-5.0807	0	0.7088	0.4785	-0.9308	0.352
CGI-26	4.0532	0.0001	-0.7348	0.4625	-0.3534	0.7238
C10orf70	4.1244	0	0.8095	0.4183	0.9473	0.3435

SEZ6L2	-4.8486	0	-0.5889	0.5559	-0.675	0.4996
NUP107	5.3066	0	0.7364	0.4615	1.5272	0.1267
RAI	-3.6962	0.0002	-0.1818	0.8558	0.6806	0.4961
EDN1	3.8232	0.0001	-0.4906	0.6237	0.5711	0.5679
FKBP10	-5.834	0	0.4657	0.6414	-0.2216	0.8247
PNPLA2	-5.6973	0	-0.3357	0.7371	1.0237	0.306
HMGB1	6.6567	0	4.6831	0	3.5376	0.0004
EIF5A	7.2855	0	3.7615	0.0002	3.1613	0.0016
HLA-F	-7.2573	0	-6.5784	0	-3.9923	0.0001
ID1	9.364	0	6.1667	0	7.1053	0
RPS17	5.7794	0	3.2817	0.001	3.6917	0.0002
MAC30	9.2847	0	5.5652	0	6.3172	0
na	7.8768	0	3.8669	0.0001	4.8177	0
RPS7	6.2808	0	3.7017	0.0002	3.0942	0.002
SNRPF	7.307	0	3.6993	0.0002	6.7327	0
NACA	4.9271	0	3.0454	0.0023	3.7851	0.0002
RAN	5.1057	0	3.5787	0.0003	5.2291	0
PSMB7	5.8609	0	3.9266	0.0001	3.0104	0.0026
PPP1CA	4.3714	0	3.2429	0.0012	4.2848	0
CYC1	6.9219	0	3.177	0.0015	3.9262	0.0001
CSE1L	6.41	0	3.6644	0.0002	3.5728	0.0004
TMX2	3.8767	0.0001	3.4218	0.0006	3.2751	0.0011
PSMC3	6.8244	0	3.9452	0.0001	5.6604	0
HNRPAB	6.8461	0	5.4961	0	7.1291	0
SPC18	7.0375	0	3.8425	0.0001	5.0668	0
COPB	3.0961	0.002	3.0559	0.0022	3.4941	0.0005
MCM3	3.3597	0.0008	3.395	0.0007	4.0378	0.0001
DDX39	6.3836	0	4.1482	0	5.7005	0
ACP1	4.7119	0	3.2696	0.0011	3.6308	0.0003
MCM6	3.8726	0.0001	3.5921	0.0003	3.696	0.0002
BIRC5	6.7654	0	4.3425	0	4.5886	0
MCM2	4.8852	0	3.6042	0.0003	6.2653	0
PTBP1	4.5812	0	4.2106	0	3.032	0.0024
LSM3	4.7944	0	3.6028	0.0003	3.1396	0.0017
PLK1	4.5197	0	5.6494	0	3.7058	0.0002
C14orf2	4.9667	0	4.0877	0	3.6859	0.0002
NDUFA1	-4.8913	0	-3.3873	0.0007	-5.7732	0
PMF1	3.0378	0.0024	3.8874	0.0001	3.4127	0.0006
RANBP1	6.8503	0	4.1498	0	5.8988	0
FOXM1	4.1285	0	3.6618	0.0003	3.2517	0.0011
UBE2S	4.7223	0	3.6233	0.0003	3.2081	0.0013
OGFR	-6.5112	0	-4.7722	0	-4.0347	0.0001
CDC20	5.7089	0	3.6241	0.0003	3.0198	0.0025
SFRS3	4.7095	0	3.1164	0.0018	4.41	0
UBE2C	6.3035	0	5.6216	0	5.0742	0
TIMELESS	4.8577	0	3.2564	0.0011	4.4032	0
SPAG5	5.1485	0	4.5195	0	3.2977	0.001
CDC2	4.6516	0	4.8968	0	3.7912	0.0001
TMPO	5.3634	0	4.7044	0	4.1214	0

TPBG	-4.2611	0	-4.0609	0	-4.6148	0
SIVA	4.0921	0	5.2761	0	4.9445	0
NDUFB5	3.5346	0.0004	3.2238	0.0013	3.1587	0.0016
CXCL12	4.4811	0	5.3787	0	3.7453	0.0002
RFC2	4.9317	0	3.803	0.0001	4.9122	0
TRIP13	5.8402	0	3.8417	0.0001	4.605	0
CDC45L	4.6797	0	3.9265	0.0001	4.2216	0
FEN1	5.2114	0	4.8208	0	5.343	0
FEN1	4.1838	0	3.2208	0.0013	5.3056	0
ESPL1	4.1898	0	3.7215	0.0002	4.0968	0
CCNF	4.0155	0.0001	4.5898	0	4.3332	0
PRIM1	5.9948	0	5.1796	0	4.1768	0
BARD1	4.7846	0	3.5752	0.0003	3.7181	0.0002
HSU79266	4.6779	0	4.3086	0	3.9334	0.0001
HIST1H4C	9.8657	0	8.6091	0	8.7852	0
KIAA0186	3.3559	0.0008	3.3475	0.0008	3.8671	0.0001
HRMT1L2	5.0242	0	4.0673	0	4.1566	0
CHC1	5.1646	0	4.615	0	3.6812	0.0002
VCX2	3.0965	0.002	3.4165	0.0006	3.3952	0.0007
PSMD9	4.3724	0	3.2531	0.0011	3.2883	0.001
RNPS1	3.315	0.0009	3.3307	0.0009	3.0658	0.0022
STK6	3.9702	0.0001	3.9979	0.0001	3.2708	0.0011
ATP5G2	4.8186	0	4.0932	0	3.4382	0.0006
MCM7	4.9039	0	3.8691	0.0001	3.3876	0.0007
SNRPB	6.9458	0	4.9912	0	5.0743	0
HINT1	3.7744	0.0002	3.0668	0.0022	4.6183	0
VDAC3	4.4174	0	3.6998	0.0002	3.1133	0.0019
TUBB2	4.3576	0	3.3511	0.0008	3.4963	0.0005
DYRK1A	4.55	0	3.1201	0.0018	3.8522	0.0001
PSMB8	-4.211	0	-3.8193	0.0001	-3.2863	0.001
HNRPDL	5.756	0	3.4801	0.0005	3.2161	0.0013
AGR2	5.2593	0	3.5055	0.0005	5.9653	0
MPDU1	3.0501	0.0023	3.1719	0.0015	4.1663	0
KIF2C	4.9602	0	4.2061	0	3.8736	0.0001
STRA13	8.6326	0	6.3755	0	9.0174	0
PPT2	-3.7464	0.0002	-3.0791	0.0021	-3.3831	0.0007
CDKN3	6.3573	0	4.988	0	4.4855	0
RRM2	8.2659	0	5.8086	0	7.1322	0
TPX2	6.2011	0	3.278	0.001	4.3781	0
BIRC5	5.4202	0	3.4891	0.0005	4.6905	0
CDC2	6.1534	0	3.8304	0.0001	5.7798	0
MCM7	5.7987	0	3.4019	0.0007	4.6722	0
PTBP1	4.0319	0.0001	3.4888	0.0005	3.7692	0.0002
FBL	6.2834	0	4.6692	0	4.2127	0
KPNA2	5.8709	0	4.0645	0	3.2701	0.0011
HNRPA3	6.1107	0	3.5124	0.0004	3.6	0.0003
PTBP1	3.3602	0.0008	3.4601	0.0005	3.323	0.0009
MKI67	3.9476	0.0001	3.3555	0.0008	3.3976	0.0007
MKI67	4.6153	0	5.4642	0	5.4838	0

MCM4	5.8829	0	3.577	0.0003	5.1814	0
MAC30	7.2464	0	5.0957	0	6.7177	0
MAC30	8.6894	0	5.6658	0	7.3204	0
BOP1	3.7285	0.0002	3.035	0.0024	3.1634	0.0016
na	4.0912	0	3.1783	0.0015	3.2172	0.0013
HRAS	4.3076	0	3.3985	0.0007	5.1315	0
FLJ10719	5.3027	0	3.5436	0.0004	3.1932	0.0014
MTMR1	3.1411	0.0017	3.269	0.0011	3.3198	0.0009
UBE2I	3.785	0.0002	3.3338	0.0009	3.6976	0.0002
RBMX	3.9565	0.0001	3.2585	0.0011	3.816	0.0001
FH	5.2471	0	3.7918	0.0001	4.2494	0
SPDEF	-3.0646	0.0022	-3.7796	0.0002	-4.7281	0
GMPS	4.4641	0	4.1394	0	4.2031	0
CCNB1	5.6827	0	3.1264	0.0018	3.7932	0.0001
MCM5	5.3166	0	3.9828	0.0001	4.4554	0
na	5.5076	0	3.2391	0.0012	3.3937	0.0007
PTBP1	4.9358	0	3.067	0.0022	3.0689	0.0021
AZGP1	-6.1821	0	-6.0958	0	-5.9615	0
COX7CP1	5.7235	0	3.0903	0.002	5.883	0
DDX56	3.8857	0.0001	3.334	0.0009	4.4199	0
BZW2	6.6708	0	4.5774	0	4.0779	0
PRC1	6.2327	0	4.0132	0.0001	5.8302	0
PCNT1	4.407	0	3.276	0.0011	3.2091	0.0013
NUSAP1	6.1626	0	3.0238	0.0025	4.6618	0
C11orf10	3.0192	0.0025	3.0342	0.0024	3.1926	0.0014
C16orf33	7.1952	0	5.5959	0	4.9128	0
NXT1	3.6149	0.0003	3.2924	0.001	3.5197	0.0004
DKFZp762E13	3.4747	0.0005	3.3973	0.0007	3.0846	0.002
POLR3K	4.1376	0	3.3916	0.0007	4.3975	0
MLF1IP	4.6707	0	3.4074	0.0007	3.971	0.0001
MRPL11	4.4745	0	4.2138	0	3.5605	0.0004
SCUBE2	-6.313	0	-5.9831	0	-6.1299	0
SLC39A4	3.0542	0.0023	3.5692	0.0004	3.6604	0.0003
C14orf169	4.1465	0	5.7068	0	4.3052	0
RPL36	3.5069	0.0005	3.9149	0.0001	3.2731	0.0011
NUSAP1	6.074	0	3.6785	0.0002	4.7206	0
C14orf156	4.4869	0	3.2431	0.0012	3.3575	0.0008
Pfs2	7.8096	0	5.0846	0	6.0992	0
FLJ12748	4.2675	0	5.5868	0	5.3892	0
MCM4	3.5202	0.0004	4.4771	0	3.9858	0.0001
ARS2	4.6607	0	3.9253	0.0001	3.8514	0.0001
SFN	7.1849	0	4.3762	0	5.7713	0
SFN	6.6382	0	3.3944	0.0007	5.033	0