

Table S1. List of Drosha-Associated ERV Sequences Identified by ChIP-seq, Related to Figure 5A

Class	Family	Repeat	# tags Drosha	# tags Input	Relative Fold Change	Chi ² test – P-value
LTR	ERV3	MER74C	19	3	6.65	9E-4
Satellite		GGAAT-SAT	75883	12233	6.51	0
LTR	ERV3	MER74A	128	33	4.07	1E-14
LTR	ERV1	LTR35	41	12	3.59	6E-5
LTR	ERV3	LTR7A	4377	1622	2.83	2E-306
LTR	ERV1	LTR35A	60	23	2.74	3E-5
LTR	ERV3	MER74	44	17	2.72	4E-4
LTR	ERV3	MER73	64	25	2.69	2E-5
LTR	ERV1	LTR1F2	195	79	2.59	2E-13
LTR	ERV1	MER67A	49	20	2.57	3E-4
LTR	ERV1	LTR27	198	81	2.57	2E-13
LTR	ERV3	MER74B	56	23	2.56	1E-4
LTR	ERV3	LTR7C	434	187	2.44	1E-25
LTR	ERV1	MER57E1	39	17	2.41	3E-3
LTR	ERV3	LTR19A	377	174	2.27	4E-20
LTR	ERV3	LTR7B	3587	1672	2.25	2E-174
LTR	ERV3	LTR7Y	2847	1348	2.22	9E-135
LTR	ERV1	MER31B	48	23	2.19	2E-3
MuDr	RICKSHA_0	RICKSHA_0	48	23	2.19	2E-3
LTR	ERV1	HERVFH21I	1108	539	2.16	8E-51
LTR	ERV1	LTR27D	116	57	2.14	2E-6
LTR	ERV1	LTR28C	231	115	2.11	3E-11
LTR	ERV1	LTR1F	110	55	2.10	6E-6
LTR	ERV1	LTR1E	210	108	2.04	1E-9
LTR	ERV1	LTR28	138	71	2.04	9E-7
LTR	ERV	HERV46I	378	199	1.99	1E-15
LINE	L1	L1M2A1_5-L1	123	66	1.96	1E-5
LTR	ERV1	LTR1D	344	187	1.93	2E-13
LTR	ERV1	HERVH	30537	16663	1.92	0
LTR	ERV	HERVFH19I	694	385	1.89	2E-24
LTR	ERV1	LTR1D1	207	117	1.86	7E-8
LTR	ERV1	LTR46	70	40	1.84	2E-3
LINE	L1	L1M2A_5-L1	145	83	1.83	1E-5
LTR	ERV1	LTR45C	116	67	1.82	1E-4
LTR	ERV2	LTR22B1	123	72	1.79	9E-5
LTR	ERV	HERVH48I	1935	1140	1.78	2E-55
LTR	ERV1	LTR10B	83	49	1.78	2E-3
LTR	ERV1	LTR1B	373	227	1.72	7E-11
LTR	ERV3	MLT2C2	121	77	1.65	7E-4
LINE	L1	L1PBB_5-L1	102	65	1.65	2E-3
LTR	ERV1	HERVIP10FH	1514	983	1.62	3E-32
LTR	ERV2	MER9	3613	2379	1.59	5E-71
LTR	ERV3	MSTC	868	586	1.55	1E-16
LTR	ERV1	LTR1B0	145	98	1.55	9E-4
LTR	ERV1	MER31A	283	192	1.55	3E-6
LTR	ERV2	MER11D	1676	1140	1.54	5E-30
LTR	ERV	HERVP71A_I	1007	685	1.54	1E-18

#Tags Drosha Library:	1093924
#Tags Input Library:	1148058

Table S2. List of Drosha-Associated Genes Identified by ChIP-seq, Related to Figure 5D

GeneID	SYMBOL	GeneID	SYMBOL	GeneID	SYMBOL	GeneID	SYMBOL
AACS	65985	BCAM	4059	CNTNAP2	26047	EMX2	2018
ABCA13	154664	BCAS3	54828	CNTNAP5	129684	EPHA10	284656
ABCG1	9619	BCL9	607	COL13A1	1305	EPHA2	1969
ACOX1	51	BPI	671	COL15A1	1306	EPHB2	2048
ADAM12	8038	BPIFB4	149954	COL18A1	80781	ERC2	26059
ADAMTS12	81792	C10orf11	83938	COL22A1	169044	EVC2	132884
ADAMTS16	170690	C11orf24	53838	COL23A1	91522	EXOC4	60412
ADARB2	105	C11orf41	25758	COL5A1	1289	FAM101A	144347
ADCK3	56997	C12orf4	57102	COL6A2	1292	FAM135B	51059
ADCY1	107	C12orf57	113246	COPA	1314	FAM157A	728262
ADORA2B	136	C14orf166B	145497	CPAMD8	27151	FAM168A	23201
AFAP1	60312	C17orf70	80233	CPM	1368	FAM169B	283777
AFF3	3899	C1orf228	339541	CPNE9	151835	FAM188B	84182
AGAP1	116987	C1QB	713	CPT1C	126129	FAM189A1	23359
AGBL4	84871	C21orf58	54058	CREM	1390	FAM24A	118670
AGTPBP1	23287	C22orf34	348645	CRHR2	1395	FAM3D	131177
AHRR	57491	C9orf96	169436	CTNND2	1501	FAM70B	348013
AK4	205	CA10	56934	CUX2	23316	FAT1	2195
AKNA	80709	CABP1	9478	CWF19L1	55280	FAT3	120114
ALK	238	CACNA1A	773	DAB1	1600	FBLN1	2192
ALOX5	240	CACNA1I	8911	DCLK1	9201	FBLN2	2199
ALX4	60529	CACNA2D3	55799	DDAH1	23576	FBN3	84467
AMOTL1	154810	CACNG2	10369	DEFB119	245932	FBRSL1	57666
ANKMY1	51281	CAMK1G	57172	DENND5B	160518	FCER2	2208
ANKRD24	170961	CAMTA1	23261	DHCR7	1717	FER	2241
ANO1	55107	CAPZA2	830	DHRS3	9249	FGD3	89846
ANO4	121601	CARD6	84674	DISC1	27185	FGF3	2248
ARHGAP22	58504	CCBL2	56267	DLEC1	9940	FIG4	9896
ARHGAP6	395	CCDC114	93233	DLG2	1740	FLRT1	23769
ARHGEF10L	55160	CCDC57	284001	DLGAP1	9229	FLT4	2324
ARMC2	84071	CD46	4179	DNAH9	1770	FRMPD2	143162
ASAP2	8853	CDKAL1	54901	DNASE1L1	1774	FRY	10129
ASS1	445	CELF2	10659	DOCK6	57572	FYB	2533
ATAD5	79915	CELF4	56853	DSCR4	10281	GABBR2	9568
ATCAY	85300	CELF5	60680	DYSF	8291	GABRR3	200959
ATF6	22926	CELSR1	9620	E2F6	1876	GALNTL4	374378
ATG4C	84938	CERS4	79603	EEF1A2	1917	GAS6	2621
ATN1	1822	CHD5	26038	EFCAB1	79645	GAS7	8522
ATP10B	23120	CHD6	84181	EFCAB6	64800	GHRHR	2692
ATXN1	6310	CHST8	64377	EIF2C2	27161	GLIPR2	152007
ATXN7L1	222255	CLCA4	22802	EIF3A	8661	GLRA1	2741
AUTS2	26053	CLEC17A	388512	ELL	8178	GLTSCR1	29998
AXL	558	CLTC	1213	ELN	2006	GMDS	2762
BAI1	575	CNTLN	54875	EMID2	136227	GNA15	2769

GeneID	SYMBOL
GNG7	2788
GOLGA1	2800
GOLM1	51280
GPR133	283383
GPR173	54328
GPR68	8111
GRAMD4	23151
GRB10	2887
GRIK3	2899
HHAT	55733
HIF3A	64344
HIST1H1C	3006
HIVEP3	59269
HNF1A	6927
HSD11B1L	374875
HSF2BP	11077
HTRA3	94031
ICA1	3382
IER2	9592
IGHE	3497
IGSF21	84966
IL12RB1	3594
IL12RB2	3595
IL2RA	3559
INMT	11185
INSR	3643
IPCEF1	26034
ITGA11	22801
ITIH3	3699
JAKMIP1	152789
JAKMIP3	282973
JPH2	57158
KCNB1	3745
KCNK9	51305
KCNQ1	3784
KCNQ3	3786
KCNS3	3790
KDM4B	23030
KIAA0284	283638
KIAA0319	9856
KIAA1024	23251
KIF17	57576
KLHL26	55295
KLK13	26085

GeneID	SYMBOL
KLK15	55554
KLK5	25818
KNDC1	85442
KRT77	374454
KSR1	8844
KSR2	283455
LGI4	163175
LINC00111	54090
LMNB2	84823
LMX1B	4010
LOXHD1	125336
LRRC2	79442
LRRC27	80313
LRRK1	79705
MACROD1	28992
MAG	4099
MASP2	10747
MBP	4155
MCF2L	23263
MGLL	11343
MIER1	57708
MLPH	79083
MLXIPL	51085
MOB3B	79817
MPZL1	9019
MSH4	4438
MUC16	94025
MUC2	4583
MUC4	4585
MYBPC2	4606
MYCBPAP	84073
MYH14	79784
MYO18A	399687
MYO18B	84700
MYO1F	4542
MYO1H	283446
MYO7A	4647
MYO7B	4648
MYO9B	4650
MYT1L	23040
NCOR1	9611
NCOR2	9612
NEAT1	283131
NEGR1	257194

GeneID	SYMBOL
NFATC1	4772
NIPAL2	79815
NLK	51701
NOS1	4842
NOS3	4846
NPAS4	266743
NPHS1	4868
NSUN6	221078
NUCB1	4924
NUP88	4927
NWD1	284434
OBSCN	84033
ODF3L2	284451
OSBPL5	114879
OTOF	9381
OTUD7A	161725
OTUD7B	56957
OXCT1	5019
PALLD	23022
PARVG	64098
PAX4	5078
PBX1	5087
PCBP2	5094
PDE4B	5142
PDE9A	5152
PDZK1IP1	10158
PEBP4	157310
PEPD	5184
PEX12	5193
PEX5L	51555
PHACTR1	221692
PHACTR3	116154
PHF2	5253
PITPNM3	83394
PLBD2	196463
PLVAP	83483
PLXNA4	91584
PMS2P11	441263
PNPLA7	375775
PPP6R2	9701
PQLC1	80148
PREX1	57580
PRIMA1	145270
PRKAG2	51422

GeneID	SYMBOL
PRKAR1B	5575
PRKCQ	5588
PRKCZ	5590
PRLR	5618
PRR12	57479
PSAT1	29968
PSD2	84249
PSTPIP1	9051
PTGIS	5740
PTP4A1	7803
PXDN	7837
RAB8A	4218
RABGGTB	5876
RALGPS1	9649
RANBP9	10048
RARB	5915
RASA3	22821
RELN	5649
RET	5979
RFX2	5990
RIMS4	140730
RIN2	54453
RIN3	79890
RNF144A	9781
RNF213	57674
RNFT2	84900
RNU11	26824
ROR1	4919
RPL10	6134
RPL27A	6157
RPL41	6171
RPS6	6194
RTBDN	83546
SAE1	10055
SAMD5	389432
SDHC	6391
SDK1	221935
SEC14L3	266629
SEC22A	26984
SEMA6B	10501
SERINC2	347735
SERPINA5	5104
SERPINB1	1992
SFMBT2	57713

GeneID	SYMBOL
SFT2D2	375035
SH3PXD2A	9644
SH3TC1	54436
SHANK3	85358
SHC2	25759
SHC3	53358
SHISA6	388336
SHROOM2	357
SIN3B	23309
SLC10A7	84068
SLC13A2	9058
SLC22A12	116085
SLC2A10	81031
SLC30A7	148867
SLC39A11	201266
SLC44A3	126969
SLC44A5	204962
SLC6A11	6538
SLC6A17	388662
SLC6A3	6531
SLC9A3	6550
SLC9A9	285195
SLCO3A1	28232
SLFN12L	100506736
SMOC1	64093
SMOC2	64094
SNORD7	692076
SORCS3	22986
SPAG9	9043
SPECC1	92521
SPEF2	79925
SPTBN4	57731
SRGAP3	9901
SRRM4	84530
SSH2	85464
SSPO	23145
SST	6750
ST8SIA5	29906
STAB2	55576
STAP2	55620
STK10	6793
STX8	9482
SUSD4	55061
SV2C	22987

GeneID	SYMBOL
SYN3	8224
SYNJ2	8871
SYT2	127833
TAF4	6874
TBCD	6904
TBX5	6910
TEKT1	83659
TERT	7015
TEX14	56155
TG	7038
THBS2	7058
THOP1	7064
TMEM108	66000
TMEM132B	114795
TMEM132D	121256
TMEM146	257062
TMEM211	255349
TMEM56	148534
TMEM72	643236
TMPRSS6	164656
TNFRSF13B	23495
TNFRSF8	943
TNXB	7148
TP73	7161
TRAPPC9	83696
TRIM37	4591
TRIO	7204
TRPM4	54795
TSHZ2	128553
TSHZ3	57616
TSNARE1	203062
TSSC1	7260
TTC7A	57217
TTLL3	26140
TUBGCP6	85378
UBE2G1	7326
UMODL1	89766
UNC13A	23025
UNC5A	90249
USH2A	7399
VAV1	7409
VAV2	7410
VEZF1	7716
VIPR1	7433

GeneID	SYMBOL
VIPR2	7434
VRK3	51231
VSTM2B	342865
VTRNA1-3	56662
WAS	7454
WDR27	253769
WDR85	92715
WISP1	8840
WNT3A	89780
WNT7B	7477
WSCD1	23302
WSCD2	9671
XKR7	343702
YIF1B	90522
ZAN	7455
ZC3H10	84872
ZFP3	124961
ZFYVE28	57732
ZNF17	7565
ZNF454	285676
ZZZ3	26009