

Table S1 List of the genes that harbored the viral integrants (Intragenic hits)

Retroviral infection of 293T cells	Lentiviral infection of 293T cells	Retroviral infection of hES cells	Lentiviral infection of hES cells
AGL	BCL9	IGSF21	DHDDS
BRD2	IL6R	CLSTN2	OXR1
DAAM2	IIP	ARHGAP10	GPBP1
SLIT2	ZC3H6	LPHN3	SQSTM1
LSM6	EPC2	SLC4A4	SMAD5
FAM83B	CASP10	GTPBP10	CTNNA1
PHTF2	RQCD1	AP1S1	SDK1
AIP	EIF2B3	PTPRZ1	KCNU1
PTMS	PASK	NCS1	C9orf102
PA2G4	NAALADL2	CCDC60	INPP5F
TSHZ2	VPRBP	AP002478.2	PACS1
USP46	PDGFC	ZNF157	C11orf2
PXT1	RANBP9	MYT1L	CCDC137
SERPINB6	C6orf10	IQSEC1	ZBED4
BTBD9	STK38	MAP7	ASH1L
PTK2	ADCK5	MAGI2	ITPKB
PPA1	ADCK5	ATXN7L1	AKAP6
MLF2	THSD7A	TMEM64	RAB11FIP3
TMBIM4	CCDC109A	CRTAC1	UNK
	ADK	ANAPC7	MAP4
	NUP98	DLGAP1	MAD1L1
	SOX6		PTK2
	SIK3		TSC1
	NARFL		NR6A1
	EP400		FNBP1
	SYNJ1		USP54
	MIPOL1		MED13L
	MCM3AP		NPLOC4
	MAPK1		TCF3
	MSLN		RUNX1
	TBC1D24		PHF21A
	IQCK		
	EZH1		
	ACOX1		
	CCDC57		
	GGNBP2		
	RBBP8		
	DNMT1		
	NUP62		
	PPP6R1		
	TAF4		
	PHF16		
	MCM3AP-AS1		

Table S2 List of the genes that were located near the viral integrants (Intergenic hits)

Retroviral infection of 293T cells	Lentiviral infection of 293T cells	Retroviral infection of hES cells	Lentiviral infection of hES cells
LAG3	GPR172A	FOXQ1	SLC22A13
RPL41	SIPA1	SERPINE1	GF1B
CACYBP	HAGHL	CKS2	TM7SF2
BTN1A1	NTN3	AP002478.1	TUBA1C
ELOVL3	PIGW	ZNF730	HGS
SCYL1	CNTNAP1	SUV39H1	CRELD2
CABP4	TBC1D17	HERC3	C5orf45
COPS7A	CASP8	FOXF2	ZNHIT2
ERBB3	PLCD4	CLDN12	AC087289.1
NGFRAP1	PPP1R7	SECISBP2	ARL16
TNN	KAT5	WEE1	ALG12
APC2	EP400NL	C16orf75	LTC4S
HMGH4	CPSF1	GLOD5	SF3B2
KCTD20	S1PR2	TM4SF18	ZFPL1
NQO2	IL4I1	RP11-466G12.4	MGAT4B
DHTKD1	HSPBP1	VEGF	H3F3B
GBF1	USP37	ARPC3	CYTH1
SSSCA1	MTERFD2	DHRX	C17orf70
REEP6	ZNF747	PDE1A	C17orf90
HLA-DOA	CCDC78	PPP1R3B	UQCR11
KCNK7	CCR10	AL360004.1	GAL3ST3
PITPNM1	FBF1	ANAPC7	CDCA5
PCSK4	FASN	SOCS6	TUBA1A
MRPS14	MYO19	ZNHIT1	FSCN2
ZFYVE20	AKT1S1	CLEC6A	TSPAN10
HLA-DMA	TMEM86B	C12orf24	NUDT1
DEK	C21orf59	CXorf24	GPR107
TNPO3	LSS	IQUB	SOLH
PITX3	FBXL6	AC013418.1	TSPAN10
LTBP3	RELA	ZNF724P	FTSJ2
TMEM134	RNASEH2C	ZNF41	MYOZ1
UPF2	ZNF764	PCSK1N	USP36
LLPH	MSLN	CP	PDE6G
IRF2BPL	CEMP1	EFCAB10	MYD88
C19orf25	HMGH2P42	PRM1	DHX30
TSPAN33	CFLAR		GYLTL1B
IRAK3	RBM15B		C9orf9
KIAA1737	NOL7		DECR2
MOCS1	KCTD20		ACAA1
NPFFR1	ART1		ITGB4
ETV7	TDRD10		AK8
SERPINB9	UROD		NR5A1
CDCA3	P2RY11		TMEM8A
SMARCC2	GPS1		PPP3CB
FRRS1	ITGAL		BRD1
SAR1A	RAD54L2		PEX16
TMEM60	KIFC2		
C12orf53	PGAP2		
BEX2	PI16		
	ACP6		
	SHE		
	HECTD3		
	ZNF142		
	C21orf58		
	GPBP1L1		
	PSMA7		
	PTCH2		
	ZC3H8		
	NOTCH4		
	PXT1		
	C16orf88		
	EIF3G		
	YPEL1		
	TCF20		
	CXorf31		
	CHRNA10		
	EVPL		
	DDX51		