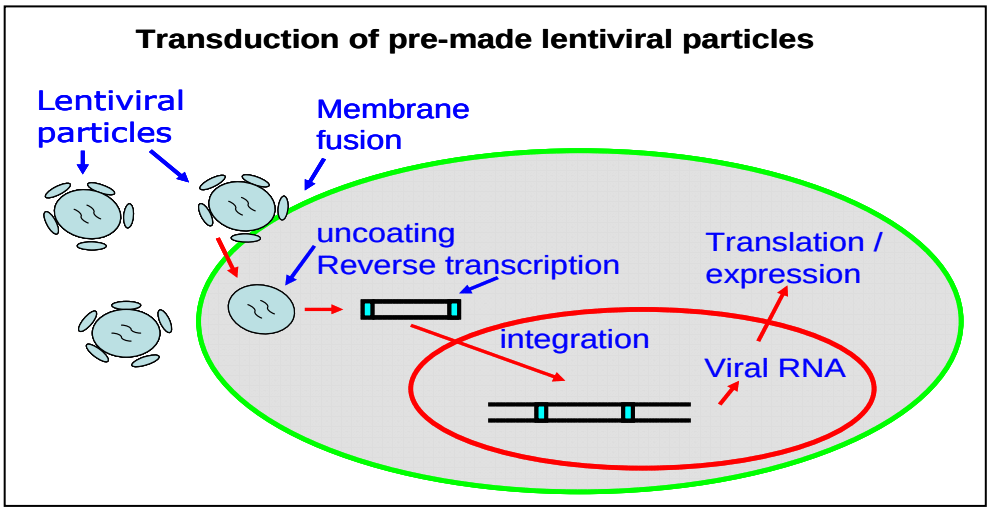
Ready-to-use Lentiviral Particles for Human and Mouse genes

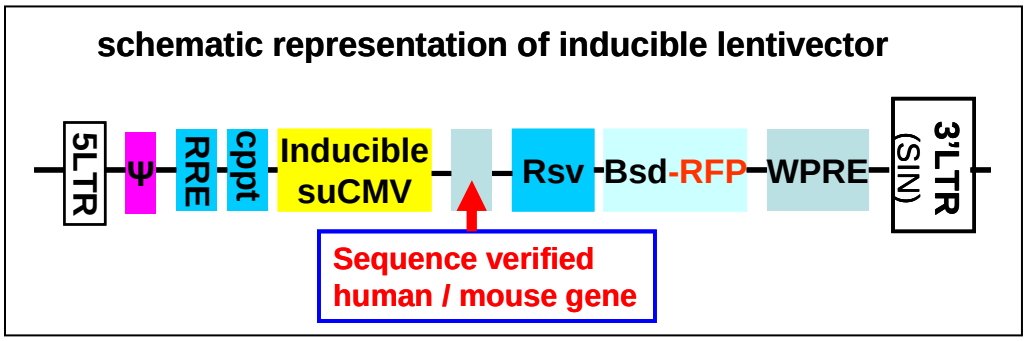
Amount: 200ul/vial at > 1 x 10^7 IFU/ml
Storage: Stable for 6 months at ≤70°C. Avoid repeat freeze/thaw cycles.

Product Description:

Lentiviral system is a gene delivery tool using lentivector for gene expression or knockdown. Lentivector is HIV-1 (Human Immunodeficiency Virus 1) derived plasmid. It produces lentiviral particles (lentivirus) which are able to transduce a broad range of mammalian cell types, including primary cells and non-dividing cells, both *in vivo* and in cell culture system. They will **stably integrate** into the genome of the transduced cell for **long term expression**. This integration being independent of the cell cycle, lentivirus holds unique promise as gene transfer agents.



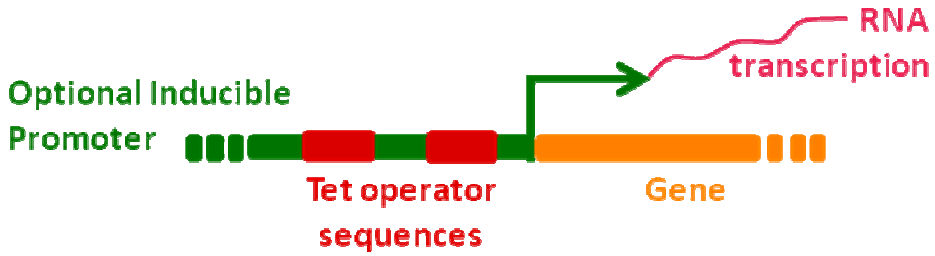
Those **3rd generation lentivectors** adapt self-inactivation in its 3'LTR, which only generates replication-incompetent particles. Ready-to-use lentiviral particles for several human or mouse genes are generated from an **optional inducible lentiviral system** (see vector scheme and explanation below).



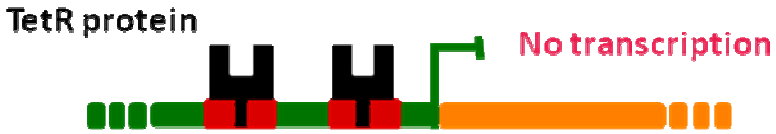
Each particle expresses a verified full sequence of human or mouse target, matching to CDS sequence in individual NCBI accession ID (see details in **Product List table** at the end of this manual). Targets are natively expressed under **optional tetracycline inducible suCMV promoter**. A Blasticidin-RFP fusion

marker under RSV promoter allows sorting or selecting transduced cells *via* RFP signal or *via* Blasticidin antibiotic (Dual markers). RFP signal provides a convenient, real-time monitoring of the particles transduction.

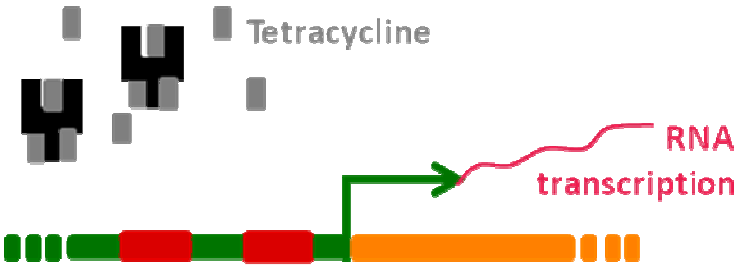
The **optional tetracycline inducible suCMV promoter** is a suCMV promoter in which two copies of tetracycline (Tet) operator sequence have been integrated. This doesn't affect the efficiency of the promoter, and without further intervention, our optional inducible lentiviral particles drive regular **high constitutive expression of the Human or Mouse gene** as usual.



But in the presence of the TetR repressor protein (by transduction of one of our TetR lentiviral particles), the transcription of your transgene will be repressed by the binding of TetR to the Tet operator sequences of the promoter.



When desired, tetracycline (or doxycycline, a derivative of tetracycline) can be added in the medium of your cells, and will bind the TetR protein which will then be released from the promoter, allowing high expression of the gene of interest.



If you need the **inducible system**, you would have to co-transduce your cells with also one of the Tet-repressor lentivirus which could be compatible with your transgene lentivirus. AMSBIO provides the **TetR lentiviral particles** with different antibiotic selection marker for double selection of transduced inducible cells: http://www.amsbio.com/datasheets/LVP017-bsd.pdf

AMSBIO also provides the **Negative control lentivirus** for establishing the control effects of virus infection upon a given cell line, which validates the specificity of any target expression effects: http://www.amsbio.com/datasheets/LVP-Null-RP.pdf

The ready-to-use particles are packaged in 293T cells and provided as 200ul aliquot without any additives. Particles are safe and easy to use; simply add into cultured cells or organs. Each virus was validated in lot by lot basis and expression is guaranteed.

For general questions about our ready-to-use lentiviral particles, please consult in our website: http://www.amsbio.com/FAQ-Premade-Lentiviral-particles.pdf

If you want to express or label your specific target, we also provide **lentiviral services** for cloning your gene of interest and generate ready-to-use viral particles with the best prices and fastest turnaround time. Please see **our website** for details: http://www.amsbio.com/custom-lentivirus-service-expression-lentiviral.aspx

Key features:

1. High target expression level driven by suCMV
2. High virus titers
3. **Optional** tetracycline inducible expression
4. Easy transduction monitoring via the RFP fluorescent signal under microscope
5. Dual markers: transduced cells can be sorted via a RFP fluorescent signal or selected via Blasticidin antibiotic
6. The lentivirus are ready and easy to use, simply add into your cell culture.

Note:

1. Dependent upon your specific needs, you may design the transduction with different MOI for different levels of expression.
2. For some cell lines, you may add polybrene for transduction enhancement.
3. For general transduction protocols, please refer to:

Safety Precaution:

Please use extra caution when using lentiviral particles. Remember. Ware glove all the time at handling Lentiviral particles! Please refer CDC and NIH's links (see references) for more details regarding to safety issues.

References:

1. Molecular Therapy (2003) 7, 460–466; doi: 10.1016/S1525-0016(03)00024-8
2. Annu Rev Microbiol. 1994;48:345-69.
3. Microbiol Mol Biol Rev. 2005 Jun;69(2):326-56.
4. NIH Guidelines for Biosafety Considerations for Research with Lentiviral Vectors. (Link).
5. CDC guidelines for Lab Biosafety levels (Link).

Warranty:

This product is warranted to meet its quality as described when used accordance with its instructions. AMSBIO disclaims any implied warranty of this product for particular application. In no event shall AMSBIO be liable for any incidental or consequential damages in connection with the products. AMSBIO's sole remedy for breach of this warranty should be, at AMSBIO's option, to replace the products.

Product list:

1. Products list for Expression lentiviral particles for human genes:

Cat#	GENE Symbol	Gene Name	Alternative Name	NCBI Accession
LVP106	AAK1	AP2 associated kinase 1	AP2 associated kinase 1	NM_014911
LVP285	ACTG1	actin, gamma 1	ACT; ACTG; DFNA20; DFNA26	NM_001614
LVP257	ACVR1	activin A receptor, type I	FOP; ALK2; SKR1; TSRI; ACTRI; ACVR1A; ACVRLK2; ACVR1	NM_001105
LVP118	ACVR1C	activin A receptor, type IC	ACVRLK7, ALK7	NM_145259
LVP116	ADCK1	aarF domain containing kinase 1	aarF domain containing kinase 1	NM_020421
LVP031	AK3	adenylate kinase 3-like 1	AK6; FIX; AK3L1; AKL3L; AKL3L1	NM_013410.2
LVP117	AKT1	v-akt murine thymoma viral oncogene homolog 1	AKT; PKB; RAC; PRKBA; MGC99656; PKB-ALPHA; RAC-ALPHA	NM_001014431
LVP421	ANPEP	alanyl (membrane) aminopeptidase	APN, CD13, GP150, LAP1, P150, PEPN	NM_001150.2
LVP405	Arf6	ADP-ribosylation factor 6	DKFZp564M0264	NM_001662
LVP332	ARID3B	AT rich interactive domain 3B (BRIGHT-like)	BDP, DRIL2	NM_006465.2
LVP121	ARRB2	arrestin, beta 2	ARB2, ARR2, BARR2, DKFZp686L0365	NM_004313
LVP122	ATF2	activating transcription factor 2	CRE-BP1, CREB2, HB16, MGC111558, TREB7	NM_001880
LVP250	AURKA	aurora kinase A	AIK, ARK1, AURA, AURORA2, BTAK, MGC34538, STK15, STK6, STK7	NM_003600
LVP123	AURKB	aurora kinase B	AIK2, AIM-1, AIM1, ARK2, AurB, IPL1, STK12, STK5, aurkb-sv1, aurkb-sv2	NM_004217
LVP124	AXL	AXL receptor tyrosine kinase	JTK11, UFO	NM_001699
LVP098	B3GALNT2	beta-1,3-N-acetylgalactosaminyl-transferase 2	B3GalNAc-T2, MGC39558	NM_152490.2
LVP389	BARD1	BRCA1 associated RING domain 1		NM_000465.2
LVP288	BAX	BCL2-associated X protein	BCL2L4	NM_138764.4
LVP126	BCKDK	branched chain ketoacid dehydrogenase kinase		NM_005881
LVP291	BDKRB1	bradykinin receptor B1	B1BKR; B1R; BKB1R; BKR1; BRADYB1	NM_000710

LVP036	BMX	BMX non-receptor tyrosine kinase	ETK, PSCTK2, PSCTK3	NM_001721
LVP390	BRAC1	breast cancer 1, early onset	BRCC1; BROVCA1; IRIS; PNCA4; PSCP	NM_007294.3
LVP078	BRD3	bromodomain containing 3	RP11-374P20.3, FLJ23227, FLJ41328, KIAA0043, ORFX, RING3L	NM_007371
LVP247	BRSK2	BR serine/threonine kinase 2	C11orf7, FLJ41362, PEN11B, SAD1, STK29	NM_003957
LVP127	BTK	Bruton agammaglobulinemia tyrosine kinase	RP1-164F3.2, AGMX1, AT, ATK, BPK, IMD1, MGC126261, MGC126262, PSCTK1, XLA	NM_000061
LVP043	BUB1	budding uninhibited by benzimidazoles 1 homolog (yeast)	BUB1A, BUB1L, hBUB1	NM_004336
LVP129	CAMK1	calcium/calmodulin-dependent protein kinase I	CAMKI	NM_003656
LVP130	CAMK1D	calcium/calmodulin-dependent protein kinase ID	RP11-462F15.1, CKLiK, CaM-K1, CaMKID	NM_153498
LVP049	CAMK2A	calcium/calmodulin-dependent protein kinase II alpha	CAMKA, KIAA0968	NM_171825
LVP133	CAMK4	calcium/calmodulin-dependent protein kinase IV	CaMK-GR, MGC36771	NM_001744
LVP203	CAMKV	CaM kinase-like vesicle-associated	1G5, MGC8407, VACAMKL	NM_024046
LVP261	CCND1	cyclin D1	BCL1, D11S287E, PRAD1, U21B31	NM_053056
LVP134	CCND3	cyclin D3	RP5-973N23.3	NM_001760
LVP135	CCNH	cyclin H	CAK, p34, p37	NM_001239
LVP136	CDC2L5	cell division cycle 2-like 5		XM_225404.5
LVP137	CDC42	cell division cycle 42 (GTP binding protein, 25kDa)	RP1-224A6.5, CDC42Hs, G25K	NM_001791.3
LVP119	CDK15	cyclin-dependent kinase 15	ALS2CR7, PFTK2	NM_139158
LVP232	CDK16	cyclin-dependent kinase 16	FLJ16665, PCTAIRE, PCTAIRE1, PCTGAIRE, PCTK1	NM_006201.4
LVP044	CDK18	cyclin-dependent kinase 18	PCTAIRE, PCTAIRE3, PCTK3	NM_002596
LVP263	CDK2	cyclin-dependent kinase 2	p33(CDK2)	NM_001798.3
LVP085	CDK3	cyclin-dependent kinase 3		NM_001258.2
LVP264	CDK4	cyclin-dependent kinase 4	CMM3, MGC14458, PSK-J3	NM_000075
LVP053	CDK5R1	cyclin-dependent kinase 5, regulatory subunit 1 (p35)	CDK5P35, CDK5R, MGC33831, NCK5A, p23, p25, p35, p35nck5a	NM_003885.2
LVP265	CDK7	cyclin-dependent kinase 7	CAK1, CDKN7, MO15, STK1, p39MO15	NM_001799.3

LVP139	CDK9	cyclin-dependent kinase 9	RP11-228B15.5, C-2k, CDC2L4, CTK1, PITALRE, TAK	NM_001261
LVP079	CDKL3	cyclin-dependent kinase-like 3	NKIAMRE	NM_016508
LVP082	CDKL5	cyclin-dependent kinase-like 5	RP1-245G19.3, ISSX, STK9	NM_003159
LVP140	CDKN1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	CAP20, CDKN1, CIP1, MDA-6, P21, SDI1, WAF1, p21CIP1	NM_000389
LVP262	CDKN2B	cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)	CDK4I, INK4B, MTS2, P15, TP15, p15INK4b	NM_004936.3
LVP396	CEBPB	CCAAT/enhancer binding protein , beta	C/EBP-beta; CRP2; IL6DBP; LAP; MGC32080	NM_005194.2
LVP142	CHEK2	CHK2 checkpoint homolog (S. pombe)	RP11-436C9.1, CDS1, CHK2, HuCds1, LFS2, PP1425, RAD53	NM_007194.3
LVP113	CHUK	conserved helix-loop-helix ubiquitous kinase	IKBKA, IKK-alpha, IKK1, IKKA, NFKBIKA, TCF16	NM_001278.3
LVP035	CKB	creatine kinase, brain	B-CK, CKBB	NM_001823
LVP055	CKM	creatine kinase, muscle	CKMM, M-CK	NM_001824
LVP065	CLCN2	chloride channel 2	CIC-2, CLC2, ECA2, ECA3, EGI11, EGI3, EGMA, EJM6, EJM8	NM_004366
LVP143	CLK1	CDC-like kinase 1	CLK, CLK/STY, STY	NM_004071.3
LVP091	CLK3	CDC-like kinase 3	FLJ22858, PHCLK3, PHCLK3/152	NM_003992.4
LVP041	CMPK1	cytidine monophosphate (UMP-CMP) kinase 1, cytosolic	RP11-511I2.1, CMK, CMPK, UMK, UMP-CMPK, UMPK	NM_016308
LVP144	COL4A3BP	collagen, type IV, alpha 3 (Goodpasture antigen) binding protein	CERT, CERTL, FLJ20597, GPBP, STARD11	NM_031361.2
LVP145	CREB1	cAMP responsive element binding protein 1	CREB, MGC9284	NM_004379
LVP420	CSF1	human colony stimulating factor 1 (macrophage), transcript variant 1	RP11-195M16.2, CSF-1, MCSF	NM_000757.3
LVP200	CSNK1A1L	casein kinase 1, alpha 1-like	CK1, MGC33182	NM_145203
LVP146	CSNK1D	casein kinase 1, delta	HCKID	NM_001893
LVP038	CSNK1G1	CSNK1G1 mRNA for casein kinase 1 gamma 1		AB042562
LVP148	CSNK2A1	casein kinase 2, alpha 1 polypeptide	CK2A1, CKII	NM_001895.3
LVP393	CTNNB1	catenin (cadherin-associated protein), beta 1	CTNNB	NM_001904.3
LVP282	CTSD	cathepsin D	CLN10; CPSD	NM_001909

LVP103	CXCR4	chemokine (C-X-C motif) receptor 4	CD184, D2S201E, FB22, HM89, HSY3RR, LAP3, LCR1, LESTR, NPY3R, NPYR, NPYRL, NPYY3R, WHIM	NM_003467.2
LVP104	CXCR7	chemokine (C-X-C motif) receptor 7	CMKOR1, GPR159, RDC1	NM_020311
LVP352	CYC1	cytochrome c-1 (CYC1), nuclear gene encoding mitochondrial protein	UQCR4	NM_001916.3
LVP048	DAPK2	death-associated protein kinase 2	DRP-1, DRP1, MGC119312	NM_014326.3
LVP061	DCLK1	doublecortin-like kinase 1	CL1, CLICK1, DCAMKL1, DCDC3A, DCLK, KIAA0369	NM_004734.3
LVP149	DDIT3	DNA-damage-inducible transcript 3	CEBPZ, CHOP, CHOP-10, CHOP10, GADD153, MGC4154	NM_004083.4
LVP150	DDR1	discoidin domain receptor tyrosine kinase 1	DAAP-278B20.1, CAK, CD167, DDR, EDDR1, HGK2, MCK10, NEP, NTRK4, PTK3, PTK3A, RTK6, TRKE	NM_001954
LVP026	DGKE	diacylglycerol kinase, epsilon 64kDa	DGK; DAGK5; DAGK6	NM_003647.2
LVP138	DNAJC28	DnaJ (Hsp40) homolog, subfamily C, member 28	C21orf55, C21orf78	NM_017833.3
LVP205	DUSP4	dual specificity phosphatase 4	HVH2, MKP-2, MKP2, TYP	NM_001394
LVP206	DUSP6	dual specificity phosphatase 6	MKP3, PYST1	NM_001946
LVP152	DYRK2	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 2	FLJ21217, FLJ21365	NM_003583
LVP392	EDNRB	endothelin receptor type B, transcript variant 1	ETB; ET-B; ETBR; ETRB; HSCR; WS4A; ABCDS; ET-BR; HSCR2	NM_000115.3
LVP153	EEF2K	eukaryotic elongation factor-2 kinase	HSU93850, MGC45041, eEF-2K	NM_013302
LVP071	ELAVL1	ELAV (embryonic lethal, abnormal vision, Drosophila)-like 1 (Hu antigen R)	ELAV1, HUR, Hua, MelG	NM_001419
LVP154	ELK1	ELK1, member of ETS oncogene family		NM_005229
LVP155	ELK4	ELK4, ETS-domain protein (SRF accessory protein 1)	SAP1	NM_021795.2
LVP156	EPHA2	EPH receptor A2	ARCC2, ECK	NM_004431
LVP083	EPHA4	EPH receptor A4	HEK8, SEK, TYRO1	NM_004438
LVP157	EPHB3	EPH receptor B3	ETK2, HEK2, TYRO6	NM_004443
LVP356	EPO	erythropoietin	EP, MVCD2	NM_000799.2

LVP158	ERBB3	v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)	ErbB-3, HER3, LCCS2, MDA-BF-1, MGC88033, c-erbB-3, c-erbB3, erbB3-S, p180-ErbB3, p45-sErbB3, p85-sErbB3	NM_001005915
LVP159	ETS1	v-ets erythroblastosis virus E26 oncogene homolog 1 (avian)	ETS-1, EWSR2, FLJ10768	NM_005238
LVP160	ETS2	v-ets erythroblastosis virus E26 oncogene homolog 2 (avian)	ETS2IT1	NM_005239.4
LVP423	FASLG	human Fas ligand (TNF superfamily, member 6)	APT1LG1, CD178, CD95-L, CD95L, FASL, TNFSF6	NM_000639.1
LVP161	FASTK	Fas-activated serine/threonine kinase	FAST	NM_006712.3
LVP296	FGF18	fibroblast growth factor 18	FGF-18; ZFGF5	NM_003862.1
LVP066	FGFR1	fibroblast growth factor receptor 1	BFGFR, CD331, CEK, FGFBR, FLG, FLJ99988, FLT2, HBGFR, KAL2, N-SAM, OGD	NM_015850.3
LVP162	FGFR2	fibroblast growth factor receptor 2	BEK, BFR-1, CD332, CEK3, CFD1, ECT1, FLJ98662, JWS, K-SAM, KGFR, TK14, TK25	NM_000141.4
LVP163	FGR	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog	FLJ43153, MGC75096, SRC2, c-fgr, c-src2, p55-Fgr, p55c-fgr, p58c-fgr	NM_005248.2
LVP416	FII(thrombin)	coagulation factor II (thrombin)	PT	NM_000506.3
LVP394	Flt3	fms-related tyrosine kinase 3	CD135; FLK2; STK1	NM_004119.2
LVP166	FOS	FBJ murine osteosarcoma viral oncogene homolog	AP-1, C-FOS	NM_005252.3
LVP258	Foxo3	forkhead box O3	AF6q21, DKFZp781A0677, FKHRL1, FKHRL1P2, FOXO2, FOXO3A, MGC12739, MGC31925	NM_201559.2
LVP077	FYN	FYN oncogene related to SRC, FGR, YES	RP1-66H14.1, MGC45350, SLK, SYN	NM_002037
LVP039	GAK	cyclin G associated kinase	FLJ16629, FLJ40395, MGC99654	NM_005255
LVP040	GALK2	galactokinase 2	GK2, MGC1745	NM_002044.2
LVP386	GATA4	GATA binding protein 4	MGC126629	NM_002052.3
LVP074	GBA	glucosidase, beta, acid	GBA1, GCB, GLUC	NM_000157.3
LVP045	GCK	glucokinase (hexokinase 4)	FGQTL3, GK, GLK, HHF3, HK4, HKIV, HXKP, LGLK, MODY2	NM_000162.3
LVP355	GDF9	growth differentiation factor 9	GDF-9; growth/differentiation factor 9	NM_005260.3

LVP273	GGA3	golgi associated, gamma adaptin ear containing, ARF binding protein 3	KIAA0154	NM_014001.2
LVP015	GLUL	glutamate-ammonia ligase (glutamine synthetase)	GS; GLNS; PIG43; PIG59	NM_002065.4
LVP076	GORASP2	golgi reassembly stacking protein 2, 55kDa	DKFZp434D156, FLJ13139, GOLPH6, GRASP55, GRS2, p59	NM_015530.3
LVP112	GPSM3	G-protein signaling modulator 3 (AGS3-like, C. elegans)	DAAP-218M18.6, AGS4, C6orf9, G18, G18.1a, G18.1b, G18.2, NG1	NM_022107.1
LVP330	GRK5	G protein-coupled receptor kinase 5	FLJ39780, GPRK5	NM_005308.2
LVP046	GRK6	G protein-coupled receptor kinase 6	FLJ32135, GPRK6	NM_002082
LVP167	GSK3B	glycogen synthase kinase 3 beta		NM_002093.3
LVP415	GYG1	Huamn glycogenin 1	GYG; GSD15	NM_004130.3
LVP303	HLAG	major histocompatibility complex, class I, G	MHC-G; HLA-G	NM_002127.5
LVP302	IDO1	indoleamine 2,3-dioxygenase 1	IDO; INDO; IDO1	NM_002164.4
LVP277	IFNG	interferon, gamma	IFG, IFI	NM_000619.2
LVP169	IKBKB	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	FLJ40509, IKK-beta, IKK2, IKKB, MGC131801, NFKBIKB	NM_001556
LVP170	IKBKG	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma	AMCBX1, FIP-3, FIP3, Fip3p, IKK-gamma, IP, IP1, IP2, IPD2, NEMO	NM_003639.3
LVP073	IL17BR	interleukin 17 receptor B	CRL4, EVI27, IL17BR, IL17RH1, MGC5245	NM_018725
LVP293	IL2	interleukin 2	IL-2; lymphokine; TCGF	NM_000586.3
LVP295	IL20	interleukin 20	IL-20; IL10D; MGC96907; ZCYTO10	NM_018724.3
LVP292	IL3	interleukin 3 (colony-stimulating factor, multiple)	IL-3; MCGF; MGC79398; MGC79399; MULTI-CSF	NM_000588.3
LVP209	IRAK3	interleukin-1 receptor-associated kinase 3	ASRT5, FLJ13601, IRAKM	NM_007199
LVP172	JUN	jun oncogene	AP-1, AP1, c-Jun	NM_002228.3
LVP290	KCNJ5	potassium inwardly-rectifying channel, subfamily J, member 5	CIR; GIRK4; KATP1; KIR3.4	NM_000890
LVP418	KDM5A	human lysine (K)-specific demethylase 5A	JARID1A, RBBP-2, RBBP2, RBP2	NM_001042603.1
LVP419	KDM5B	lysine (K)-specific demethylase 5B	CT31, JARID1B, PLU-1, PLU1, PUT1, RBBP2H1A	NM_006618.3
LVP353	Kiss1	KiSS-1 metastasis-suppressor	PP5098, KiSS-1, METASTIN, MGC39258	NM_002256.3
LVP294	KITLG	KIT ligand	FPH2; Kitl; KL-1; MGF; SCF; SF; SHEP7	NM_000899.3

LVP101	LBR	lamin B receptor	DHCR14B, FLJ43126, LMN2R, MGC9041, PHA	NM_002296.2
LVP384	LDHA	lactate dehydrogenase A	LDH1; LDHM; GSD11; PIG19	NM_005566.3
LVP033	LIMK2	LIM domain kinase 2	LIMK-2	NM_005569
LVP174	LMNA	lamin A/C	RP11-54H19.1, CDCD1, CDDC, CMD1A, CMT2B1, EMD2, FPL, FPLD, HGPS, IDC, LDP1, LFP, LGMD1B, LMN1, LMNC, LMNL1, PRO1	NM_005572.3
LVP422	LOXL2	human lysyl oxidase-like 2	LOR2, WS9-14	NM_002318.2
LVP092	MAK	male germ cell-associated kinase	RP3-417M14.2, dJ417M14.2	NM_005906
LVP349	MAP1LC3B	microtubule-associated protein 1 light chain 3 beta	**LC3** B; ATG8F; MAP1A/1BLC3; MAP1LC3B	NM_022818.4
LVP176	MAP2K2	mitogen-activated protein kinase kinase 2	FLJ26075, MAPKK2, MEK2, MKK2, PRKMK2	NM_030662.3
LVP177	MAP2K3	mitogen-activated protein kinase kinase 3	MAPKK3, MEK3, MKK3, PRKMK3	NM_145109.2
LVP178	MAP2K4	mitogen-activated protein kinase kinase 4	JNKK, JNKK1, MAPKK4, MEK4, MKK4, PRKMK4, SEK1, SERK1	NM_003010
LVP228	MAP2K5	mitogen-activated protein kinase kinase 5	HsT17454, MAPKK5, MEK5, PRKMK5	NM_145160.1
LVP180	MAP3K12	mitogen-activated protein kinase kinase kinase 12	DLK, MEKK12, MUK, ZPK, ZPKP1	NM_006301.2
LVP181	MAP3K14	mitogen-activated protein kinase kinase kinase 14	FTDCR1B, HS, HSNIK, NIK	NM_003954
LVP182	MAP3K5	mitogen-activated protein kinase kinase kinase 5	RP3-325F22.4, ASK1, MAPKKK5, MEKK5	NM_005923
LVP183	MAP3K7	mitogen-activated protein kinase kinase kinase 7	MEKK7, TAK1, TGF1a	NM_003188
LVP184	MAP3K8	mitogen-activated protein kinase kinase kinase 8	RP11-449I17.8, COT, EST, ESTF, FLJ10486, MEKK8, TPL2, Tpl-2, c-COT	NM_005204.2
LVP185	MAPK1	mitogen-activated protein kinase 1	ERK, ERK2, ERT1, MAPK2, P42MAPK, PRKM1, PRKM2, p38, p40, p41, p41mapk	NM_002745
LVP186	MAPK12	mitogen-activated protein kinase 12	ERK3, ERK6, P38GAMMA, PRKM12, SAPK-3, SAPK3	NM_002969
LVP187	MAPK13	mitogen-activated protein kinase 13	PRKM13, SAPK4, p38delta	NM_002754.3
LVP188	MAPK3	mitogen-activated protein kinase 3	ERK1, HS44KDAP, HUMKER1A, MGC20180, P44ERK1, P44MAPK, PRKM3	NM_002746
LVP189	MAPK6	mitogen-activated protein kinase 6	DKFZp686F03189, ERK3, HsT17250, PRKM6, p97MAPK	NM_002748
LVP190	MAPK7	mitogen-activated protein kinase 7	BMK1, ERK4, ERK5, PRKM7	NM_002749

LVP191	MAPK8	mitogen-activated protein kinase 8	JNK, JNK1, JNK1A2, JNK21B1/2, PRKM8, SAPK1	NM_002750
LVP192	MAPK9	mitogen-activated protein kinase 9	JNK-55, JNK2, JNK2A, JNK2ALPHA, JNK2B, JNK2BETA, PRKM9, SAPK, p54a, p54aSAPK	NM_002752
LVP075	MAPKAPK3	mitogen-activated protein kinase-activated protein kinase 3	3PK, MAPKAP3	NM_004635
LVP195	MAPKAPK5	mitogen-activated protein kinase-activated protein kinase 5	PRAK	NM_003668.2
LVP032	MARK2	MAP/microtubule affinity-regulating kinase 2	EMK-1, EMK1, MGC99619, PAR-1, Par1b	NM_004954
LVP029	MARK3	MAP/microtubule affinity-regulating kinase 3	KP78; CTAK1; PAR1A	NM_002376
LVP196	MAST2	microtubule associated serine/threonine kinase 2	FLJ39200, KIAA0807, MAST205, MTSSK, RP4-533D7.1	NM_015112
LVP030	MATK	megakaryocyte-associated tyrosine kinase	CHK; CTK; HYL; Lsk; HYLTK; HHYLTK; MGC1708; MGC2101; DKFZp434N1212	NM_002378
LVP197	MAX	MYC associated factor X	bHLHd4, bHLHd5, bHLHd6, bHLHd7, bHLHd8	NM_002382
LVP198	MEF2B	myocyte enhancer factor 2B	hCG_38559, FLJ32648, RSRFR2	NM_001145785.1
LVP199	MEF2C	myocyte enhancer factor 2C		NM_002397.3
LVP204	MKNK1	MAP kinase interacting serine/threonine kinase 1	RP11-49P4.3, MNK1	NM_003684
LVP395	MMP9	matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase)	CLG4B; GELB; MANDP2; MMP-9	NM_004994.2
LVP229	MRE11A	MRE11 meiotic recombination 11 homolog A (S. cerevisiae)	ATLD, HNGS1, MRE11, MRE11B	NM_005590
LVP400	MSH3	MSH3 mutS homolog 3	DUP; MRP1	NM_002439.3
LVP417	MSH3	human mutS homolog 3 (E. coli)	DUP, MRP1	NM_002439
LVP207	MYD88	myeloid differentiation primary response gene (88)	MYD88D	NM_002468
LVP111	NBN	nibrin	AT-V1, AT-V2, ATV, FLJ10155, MGC87362, NBS, NBS1, P95	NM_002485.4
LVP286	NCOA4	nuclear receptor coactivator 4	ARA70; DKFZp762E1112; ELE1; PTC3; RFG	NM_001145263.1
LVP165	NEK10	NIMA (never in mitosis gene a)- related kinase 10	FLJ32685	NM_152534.3
LVP089	NEK11	NIMA (never in mitosis gene a)- related kinase 11	FLJ23495	NM_024800

LVP230	NEK6	NIMA (never in mitosis gene a)-related kinase 6	RP11-101K10.6, SID6-1512	NM_014397.4
LVP208	NFATC3	nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3	NFAT4, NFATX	NM_004555.2
LVP100	NFIC	nuclear factor I/C (CCAAT-binding transcription factor)	CTF, CTF5, MGC20153, NF-I, NFI	NM_005597.2
LVP210	NFkB1	nuclear factor of kappa light polypeptide gene enhancer in B-cells 1	DKFZp686C01211, EBP-1, KBF1, MGC54151, NF-kappa-B, NF-kappaB, NFKB-p105, NFKB-p50, p105, p50	NM_003998.3
LVP168	NFKBIA	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha	IKBA, MAD-3, NFKBI	NM_020529.2
LVP201	NIM1	serine/threonine-protein kinase	MGC42105	NM_153361
LVP050	NME1	non-metastatic cells 1, protein	AWD, GAAD, NB, NBS, NDPK-A, NDPKA, NM23, NM23-H1	NM_000269.2
LVP028	NME5	non-metastatic cells 5, protein expressed in (nucleoside-diphosphate kinase)	NM23H5; RSPH23; NM23-H5	NM_003551
LVP110	NPM1	nucleophosmin (nucleolar phosphoprotein B23, numatrin)	B23, MGC104254, NPM	NM_002520.5
LVP406	NPTN	neuroplastin	GP55; GP65; SDR1; np55; np65; SDFR1	NM_017455
LVP108	NR3C1 variant 1	nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	GCCR, GCR, GR, GRL	NM_001018077
LVP109	NR3C1 variant 6	nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	GCCR, GCR, GR, GRL	NM_001020825.1
LVP272	NRAS	neuroblastoma RAS viral (v-ras) oncogene homolog	N-ras, RP5-1000E10.2, ALPS4, NRAS1, NS6	NM_002524.3
LVP047	NUAK2	NUAK family, SNF1-like kinase, 2	DKFZp434J037, DKFZp686F01113, FLJ90349, SNARK	NM_030952.1
LVP329	OMD	osteomodulin	UNQ190/PRO216, OSAD, SLRR2C	NM_005014.2
LVP259	OXSR1	oxidative-stress responsive 1	KIAA1101, OSR1	NM_005109.2
LVP211	PAK2	p21 protein (Cdc42/Rac)-activated kinase 2	PAK65, PAKgamma	NM_002577.4
LVP231	PAK4	p21 protein (Cdc42/Rac)-activated kinase 4		NM_001014831
LVP037	PAK6	p21 protein (Cdc42/Rac)-activated kinase 6	PAK5	NM_020168
LVP125	PARS2	prolyl-tRNA synthetase 2, mitochondrial (putative)	DKFZp727A071, MGC14416, MGC19467, MT-PRORS	NM_152268

LVP095	PBK	PDZ binding kinase	CT84, FLJ14385, Nori-3, SPK, TOPK	NM_018492.2
LVP278	PCBP2	poly(rC) binding protein 2	HNRPE2, hnRNP-E2	NM_031989.4
LVP102	PDHA1	pyruvate dehydrogenase (lipoamide) alpha 1	RP11-723P2.1, PDHA, PDHCE1A, PHE1A	NM_000284.2
LVP052	PDIK1L	PDLIM1 interacting kinase 1 like	CLIK1L, RP11-96L14.4, STK35L2	NM_152835.3
LVP060	PDK3	pyruvate dehydrogenase kinase, isozyme 3		NM_005391.4
LVP212	PDK4	pyruvate dehydrogenase kinase, isozyme 4		NM_002612
LVP025	PFKM	phosphofructokinase, muscle	GSD7; PFK1; PFKA; PFKX; PFK-1; MGC8699	NM_000289
LVP327	PGR	progesterone receptor	NR3C3, PR	NM_000926.4
LVP213	PHKG2	phosphorylase kinase, gamma 2 (testis)	GSD9C	NM_000294
LVP214	PIK3CB	phosphoinositide-3-kinase, catalytic, beta polypeptide	DKFZp779K1237, MGC133043, P110BETA, PI3K, PI3KBETA, PIK3C1	NM_006219
LVP215	PIK3R3	phosphoinositide-3-kinase, regulatory subunit 3 (gamma)	DKFZp686P05226, FLJ41892, p55, p55-GAMMA	NM_003629
LVP062	PIM1	pim-1 oncogene	PIM	NM_002648.3
LVP034	PIM2	pim-2 oncogene		NM_006875
LVP058	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type I, alpha	RP11-68I18.9	NM_001135637
LVP233	PKMYT1	protein kinase, membrane associated tyrosine/threonine 1	DKFZp547K1610, FLJ20093, MYT1	NM_004203
LVP234	PLK1	polo-like kinase 1 (Drosophila)	PLK, STPK13	NM_005030
LVP226	PLK4	polo-like kinase 4	SAK, STK18	NM_014264.3
LVP068	POMP	proteasome maturation protein	C13orf12, HSPC014, PNAS-110, UMP1	NM_015932.4
LVP216	PPARg	peroxisome proliferator-activated receptor gamma	CIMT1, GLM1, NR1C3, PPARG1, PPARG2, PPARgamma	NM_005037
LVP072	PPP1R7	protein phosphatase 1, regulatory (inhibitor) subunit 7	SDS22	NM_002712
LVP328	PRELP	proline/arginine-rich end leucine-rich repeat protein	RP11-91B9.1, MGC45323, MST161, MSTP161, SLRR2A	NM_201348.1
LVP217	PRKAA1	protein kinase, AMP-activated, alpha 1 catalytic subunit	AMPK; AMPKa1; MGC33776; MGC57364; PRKAA1	NM_206907.3
LVP094	PRKAA2	protein kinase, AMP-activated, alpha 2 catalytic subunit	AMPK, AMPK2, PRKAA	NM_006252.3

LVP218	PRKACA	protein kinase, cAMP-dependent, catalytic, alpha	MGC102831, MGC48865, PKACA	NM_002730
LVP235	PRKACB	protein kinase, cAMP-dependent, catalytic, beta	RP11-82H13.1, DKFZp781I2452, MGC41879, MGC9320, PKACB	NM_002731
LVP219	PRKCA	protein kinase C, alpha	AAG6, MGC129900, MGC129901, PKC-alpha, PKCA, PRKACA	NM_002737
LVP236	PRKCG	protein kinase C, gamma	MGC57564, PKC-gamma, PKCC, PKCG, SCA14	NM_002739.3
LVP099	PROM1	prominin 1	AC133, CD133, CORD12, MCDR2, MSTP061, PROML1, RP41, STGD4	NM_001145847.1
LVP220	PTK2B	PTK2B protein tyrosine kinase 2 beta	CADTK, CAKB, FADK2, FAK2, PKB, PTK, PYK2, RAFTK	NM_173174.1
LVP266	Rac1	ras-related C3 botulinum toxin substrate 1	MIG5, MGC111543, TC-25, p21-Rac1	NM_006908.4
LVP267	Rac2	ras-related C3 botulinum toxin substrate 2	EN-7, Gx, HSPC022	NM_002872.3
LVP088	RAGE	renal tumor antigen	MOK, RAGE1	NM_014226
LVP274	RalBP1	ralA binding protein 1	RIP1, RLIP1, RLIP76	NM_006788.3
LVP275	RanBP1	RAN binding protein 1	HTF9A	NM_002882.2
LVP354	RASA3	RAS p21 protein activator 3	RP11-245B11.3, GAP1IP4BP, GAPIII	NM_007368.2
LVP284	RASSF5	Ras association (RalGDS/AF-6) domain family member 5	Maxp1; MGC10823; MGC17344; NORE1; NORE1A; NORE1B; RAPL; RASSF3	NM_182665
LVP237	RELA	v-rel reticuloendotheliosis viral oncogene homolog A (avian	MGC131774, NFKB3, p65	NM_021975
LVP221	RET	ret proto-oncogene	Dmel_CG14396, CG1061, CG14396, D-ret, DRET, DmHD-59, Dmel\CG14396, Dret, HD-59, MEN2, RET, Reto, dRET, dRet, ret	NM_020630
LVP280	RGS16	regulator of G-protein signaling 16	A28-RGS14; A28-RGS14P; RGS-R	NM_002928.3
LVP260	RhoA	ras homolog gene family, member A	ARH12, ARHA, RHO12, RHOH12	NM_001664.2
LVP251	RIOK3	RIO kinase 3 (yeast)	DKFZp779L1370, SUDD	NM_003831
LVP222	RIPK2	receptor-interacting serine-threonine kinase 2	WUGSC:H_RG437L15.1, CARD3, CARDIAK, CCK, GIG30, RICK, RIP2	NM_003821
LVP114	RNASEH2A	ribonuclease H2, subunit A	AGS4, JUNB, RNASEHI, RNHIA, RNHL	NM_006397.2
LVP401	ROR2	receptor tyrosine kinase-like orphan receptor 2	BDB; BDB1; NTRKR2	NM_004560.3

LVP064	RP2	retinitis pigmentosa 2 (X-linked recessive)	DELXp11.3, KIAA0215, NME10, TBCCD2, XRP2	NM_006915.2
LVP193	RPS6KA1	ribosomal protein S6 kinase, 90kDa, polypeptide 1	RP11-492M19.2, HU-1, MAPKAPK1A, RSK, RSK1	NM_002953.3
LVP238	RPS6KA2	ribosomal protein S6 kinase, 90kDa, polypeptide 2	RP1-168L15.2, HU-2, MAPKAPK1C, RSK, RSK3, S6K-alpha, S6K-alpha2, p90-RSK3, pp90RSK3	NM_021135.4
LVP194	RPS6KA3	ribosomal protein S6 kinase, 90kDa, polypeptide 3	RP11-393H10.3, CLS, HU-3, ISPK-1, MAPKAPK1B, MRX19, RSK, RSK2, S6K-alpha3, p90-RSK2, pp90RSK2	NM_004586.2
LVP239	RPS6KB1	ribosomal protein S6 kinase, 70kDa, polypeptide 1	PS6K, S6K, S6K1, STK14A, p70(S6K)-alpha, p70-S6K, p70-alpha	NM_003161
LVP086	RPS6KL1	ribosomal protein S6 kinase-like 1	FLJ35734, MGC11287	NM_031464.3
LVP281	RUVBL2	RuvB-like 2	CGI-46; ECP51; INO80J; REPTIN; RVB2; TIH2; TIP48; TIP49B	NM_006666.1
LVP385	RXRA	retinoid X receptor, alpha	NR2B1	NM_002957.4
LVP223	SGK2	serum/glucocorticoid regulated kinase 2	RP1-138B7.2, H-SGK2, dJ138B7.2	NM_016276
LVP240	SGK3	serum/glucocorticoid regulated kinase family, member 3	CISK, DKFZp781N0293, SGK2, SGKL	NM_013257
LVP175	SMAD2	SMAD family member 2	JV18, JV18-1, MADH2, MADR2, MGC22139, MGC34440, hMAD-2, hSMAD2	NM_005901.4
LVP404	SOD2	superoxide dismutase 2, mitochondrial	RP1-56L9.2, IPOB, MNSOD, MVCD6	NM_000636
LVP241	SP1	Sp1 transcription factor		NM_003109.1
LVP242	SPAG9	sperm associated antigen 9	CT89, FLJ13450, FLJ14006, FLJ26141, FLJ34602, HLC-6, HLC4, HLC6, JIP-4, JIP4, JLP, KIAA0516, MGC117291, MGC14967, MGC74461, PHET, PIG6	NM_003971
LVP120	SPEG	SPEG complex locus	APEG1, BPEG, KIAA1297, MGC12676, SPEGalpha, SPEGbeta	NM_005876
LVP132	SPZ1	spermatogenic leucine zipper 1	FLJ25709, NYD-TSP1	NM_032567.2
LVP243	SRPK1	SFRS protein kinase 1	SFRSK1	NM_003137
LVP224	STAT3	signal transducer and activator of transcription 3 (acute-phase response factor)	APRF, FLJ20882, HIES, MGC16063	NM_003150

LVP383	Stat3	STAT3 signal transducer and activator of transcription 3	APRF; HIES	NM_139276.2
LVP081	STK10	serine/threonine kinase 10	LOK, PRO2729	NM_005990
LVP090	STK11	serine/threonine kinase 11	LKB1, PJS	NM_000455.4
LVP225	STK16	serine/threonine kinase 16	FLJ39635, KRCT, MGC16211, MPSK, PKL12, TSF1	NM_001008910.2
LVP056	STK17B	serine/threonine kinase 17b	DRAK2	NM_004226.3
LVP246	STK25	serine/threonine kinase 25 (STE20 homolog, yeast)	DKFZp686J1430, SOK1, YSK1	NM_006374
LVP248	STK3	serine/threonine kinase 3 (STE20 homolog, yeast)	FLJ90748, KRS1, MST2	NM_006281
LVP063	STK32C	serine/threonine kinase 32C	MGC23665, PKE, RP11-140A10.1, YANK3	NM_173575
LVP249	STK38	serine/threonine kinase 38	NDR, NDR1	NM_007271
LVP080	STK4	serine/threonine kinase 4	DKFZp686A2068, KRS2, MST1, YSK3	NM_006282
LVP202	STK40	serine/threonine kinase 40	MGC4796, RP11-268J15.4, SHIK, SgK495	NM_032017
LVP107	STRADB	STE20-related kinase adaptor beta	ALS2CR2, CALS-21, ILPIP, ILPIPA, MGC102916, PAPK, PRO1038	NM_018571
LVP151	STYK1	serine/threonine/tyrosine kinase 1	DKFZp761P1010, NOK, SuRTK106	NM_018423.2
LVP171	TAOK3	TAO kinase 3	DKFZp666H245, DPK, FLJ31808, JIK, MAP3K18	NM_016281.2
LVP276	TAPBP	TAP binding protein (tapasin)	TPN; TAPA; TPSN; NGS17; TAPBP	NM_003190.3
LVP387	TBX5	T-box 5	HOS	NM_000192.3
LVP105	TERT	telomerase reverse transcriptase	EST2, TCS1, TP2, TRT, hEST2	NM_198253.2
LVP289	TGFB1	transforming growth factor, beta 1	CED, DPD1, LAP, TGFB, TGFbeta	NM_000660.4
LVP054	TGFBR2	transforming growth factor, beta receptor II (70/80kDa)	AAT3, FAA3, LDS1B, LDS2B, MFS2, RIIC, TAAD2, TGFR-2, TGFbeta-RII	NM_001024847.2
LVP097	TMEM50B	transmembrane protein 50B	C21orf4, DKFZp686C2482, FLJ26146, HCVP7TP3	NM_006134.5
LVP287	TNF	tumor necrosis factor	DIF; TNFA; TNFSF2; TNF-alpha	NM_000594.2
LVP331	TNFAIP6	tumor necrosis factor, alpha-induced protein 6	TSG-6, TSG6	NM_007115.2
LVP173	TNIK	TRAF2 and NCK interacting kinase		NM_015028
LVP115	TNK2	tyrosine kinase, non-receptor, 2	ACK; ACK1; FLJ44758; FLJ45547; p21cdc42Hs	NM_005781
LVP253	TP53	tumor protein p53	FLJ92943, LFS1, TRP53, p53	NM_000546
LVP397	TP63	tumor protein p63 (TP63), transcript variant 4	AIS; B(p51A); B(p51B); EEC3; KET; LMS; NBP	NM_001114980.1

LVP069	TPT1	tumor protein, translationally-controlled 1	FLJ27337, HRF, TCTP, p02	NM_003295
LVP244	TPTE	transmembrane phosphatase with tensin homology	CT44, PTEN2	NM_199259.2
LVP042	TRIB2	tribbles homolog 2 (Drosophila)	C5FW, FLJ57420, GS3955, TRB2	NM_021643
LVP128	TRIB3	tribbles homolog 3 (Drosophila)	RP5-1103G7.7, C20orf97, NIPK, SINK, SKIP3, TRB3	NM_021158
LVP084	TSSK1B	testis-specific serine kinase 1B	FKSG81, SPOGA4, STK22D, TSSK1	NM_032028
LVP227	TSSK2	testis-specific serine kinase 2	DGS-G, FLJ38613, SPOGA2, STK22B	NM_053006
LVP245	TSSK3	testis-specific serine kinase 3	SPOGA3, STK22C, STK22D, TSK3	NM_052841
LVP254	TTBK2	tau tubulin kinase 2	KIAA0847, SCA11, TTBK	NM_173500
LVP096	TUBA1B	tubulin, alpha 1b	K-ALPHA-1	NM_006082
LVP087	TWF1	twinfilin, actin-binding protein, homolog 1 (Drosophila)	A6, MGC23788, MGC41876, PTK9	NM_002822
LVP093	TWF2	twinfilin, actin-binding protein, homolog 2 (Drosophila)	A6RP, A6r, MSTP011, PTK9L	NM_007284.3
LVP067	TXN	thioredoxin	RP11-427L11.1, DKFZp686B1993, MGC61975, TRX, TRX1	NM_003329.2
LVP051	TYK2	tyrosine kinase 2	JTK1	NM_003331
LVP022	UBD	ubiquitin D	FAT10; UBD-3; GABBR1	NM_006398.3
LVP164	ULK4	unc-51-like kinase 4 (C. elegans)	hCG_1996673, DKFZp434E1822, FAM7C1, FLJ20574, REC01035	NM_017886.2
LVP388	VEGFA	vascular endothelial growth factor A	VPF; VEGF; MVCD1; MGC70609	NM_001171626.1
LVP255	VRK3	vaccinia related kinase 3		NM_016440
LVP252	WEE1	WEE1 homolog (S. pombe)	DKFZp686I18166, FLJ16446, WEE1A, WEE1hu	NM_003390.3
LVP057	WIF1	WNT inhibitory factor 1	WIF-1	NM_007191
LVP070	XPO5	exportin 5	RP3-337H4.5, FLJ14239, FLJ32057, FLJ45606, KIAA1291	NM_020750.2
LVP059	YES1	v-yes-1 Yamaguchi sarcoma viral oncogene homolog 1	HsT441, P61-YES, Yes, c-yes	NM_005433.3
LVP256	ZAP70	zeta-chain (TCR) associated protein kinase 70kDa	FLJ17670, FLJ17679, SRK, STD, TZK, ZAP-70	NM_001079
LVP279	ZFP36	zinc finger protein 36, C3H type	G0S24, GOS24, NUP475, RNF162A, TIS11, TTP	NM_003407.

2. Products list for Expression lentiviral particles for mouse genes:

Cat#	Gene symbol	Gene name	alternative name	NCBI ID
LVP131	m Acp2	acid phosphatase 2, lysosomal	LAP; Acp-2	NM_007387.2
LVP424	m CSF2	mouse colony stimulating factor 2 (granulocyte-macrophage)	RP23-309E16.1, Csfgm, Gm-CSf, MGI-IGM	NM_009969.4
LVP179	m CSN3	casein kappa	Csnk; CSN10; AW208918; Csn3	NM_007786.4
LVP141	m Gadd45a	growth arrest and DNA-damage-inducible 45 alpha	AA545191, Ddit1, GADD45	NM_007836.1
LVP398	m Git2	G protein-coupled receptor kinase-interactor 2	CAT2; KIAA0148	NM_019834.3
LVP391	m IL10	interleukin 10	CSIF; Il-10	NM_010548.2
LVP008m	m Klf4	Kruppel-like factor 4 (gut)	EZF; Zie; Gklf	NM_010637.3
LVP006m	m LIN28	lin-28 homolog A	Lin-28, Lin28a, Tex17	NM_145833.1
LVP270	m MEF2C	myocyte enhancer factor 2C	Mef2	NM_025282.3
LVP271	m Mesp1	mesoderm posterior 1	bHLHc5; MGC159208; MGC159210	NM_008588.2
LVP268	m Mitf	microphthalmia-associated transcription factor	Wh; bw; mi; vit; Bhlhe32; Vitiligo; MGC124309; MGC124310	NM_008601.3
LVP007m	m Myc	myelocytomatosis oncogene	Myc2; Nird; Niard; bHLHe39; AU016757; Myc	NM_010849.4
LVP147	m Myd88	myeloid differentiation primary response gene 88		NM_010851.2
LVP005m	m NANOG	Nanog homeobox	ENK, ecat4	NM_028016.2
LVP003m	m OCT4	POU domain, class 5, transcription factor 1	Pou5f1, Oct3; Oct4; Otf3; Otf4; Oct-3; Oct-4; Otf-3; Otf-4; Otf3g; Oct3/4; Oct-3/4; Otf3-rs7	NM_013633.2
LVP269	m PAX6	paired box gene 6	Dey; Sey; AEY11; Pax-6; Gsfaey11; 1500038E17Rik	NM_013627.4
LVP351	m shank3	SH3/ankyrin domain gene 3	AI841104, Shank3b	NM_021423
LVP004m	m Sox2	SRY-box containing gene 2	lcc; ysb; Sox-2	NM_011443.3
LVP350	m SRC	Rous sarcoma oncogene (src), transcript variant 2	RP23-169M4.1, AW259666, pp60c-src	NM_001025395.2