

Supplementary Table S1. Raw reads and clean reads summary of control and HPAI infected samples in the resistant and susceptible lines after 3 days post-infection

Sample	Raw Reads				Clean Reads			
	# Read-pairs	Yield (bp)	*% \geq Q30 Bases	Mean Quality Score	# Read-pairs	Yield (bp)	*% \geq Q30 Bases	Mean Quality Score
R1D3-CTR-RNA- Lung	35,417,209	2,691,707,884	84.4	Q32.4	32,760,232	911,442,400	88.2	Q32.7
R3D3-CTR-RNA- Lung	48,221,765	3,664,854,140	88.3	Q33.2	44,111,109	1,237,284,318	91.2	Q33.3
R5D3-CTR-RNA- Lung	44,533,987	3,384,583,012	87.8	Q33.1	41,083,615	1,029,904,870	90.0	Q33.0
R1D3-RNA-HPAI-Lung	34,714,069	2,638,269,244	89.5	Q33.5	28,397,520	720,541,224	91.6	Q33.4
R2D3-RNA-HPAI-Lung	39,758,312	3,021,631,712	87.3	Q33.0	24,855,316	630,142,546	91.6	Q33.4
R5D3-RNA-HPAI-Lung	32,468,136	2,467,578,336	89.8	Q33.5	30,533,733	788,567,105	92.0	Q33.5
S1D3-CTR-RNA-Lung	34,732,672	2,639,683,072	89.5	Q33.4	29,433,492	748,146,472	91.6	Q33.3
S2D3-CTR-RNA-Lung	50,411,554	3,831,278,104	84.7	Q32.5	44,438,149	1,171,372,188	90.8	Q33.2
S3D3-CTR-RNA-Lung	36,808,141	2,797,418,716	89.1	Q33.4	32,848,391	844,651,983	91.0	Q33.2
S4D3-CTR-RNA-Lung	52,550,651	3,993,849,476	88.0	Q33.1	45,669,704	1,279,995,633	88.9	Q32.8
S5D3-CTR-RNA-Lung	52,293,817	3,974,330,092	88.8	Q33.3	46,894,898	1,272,269,729	91.0	Q33.3
S1D3-RNA-HPAI-Lung	43,246,169	3,286,708,844	85.8	Q32.7	35,479,513	936,776,422	88.2	Q32.7
S3D3-RNA-HPAI-Lung	32,054,580	2,436,148,080	85.4	Q32.6	29,328,071	754,120,333	88.5	Q32.7

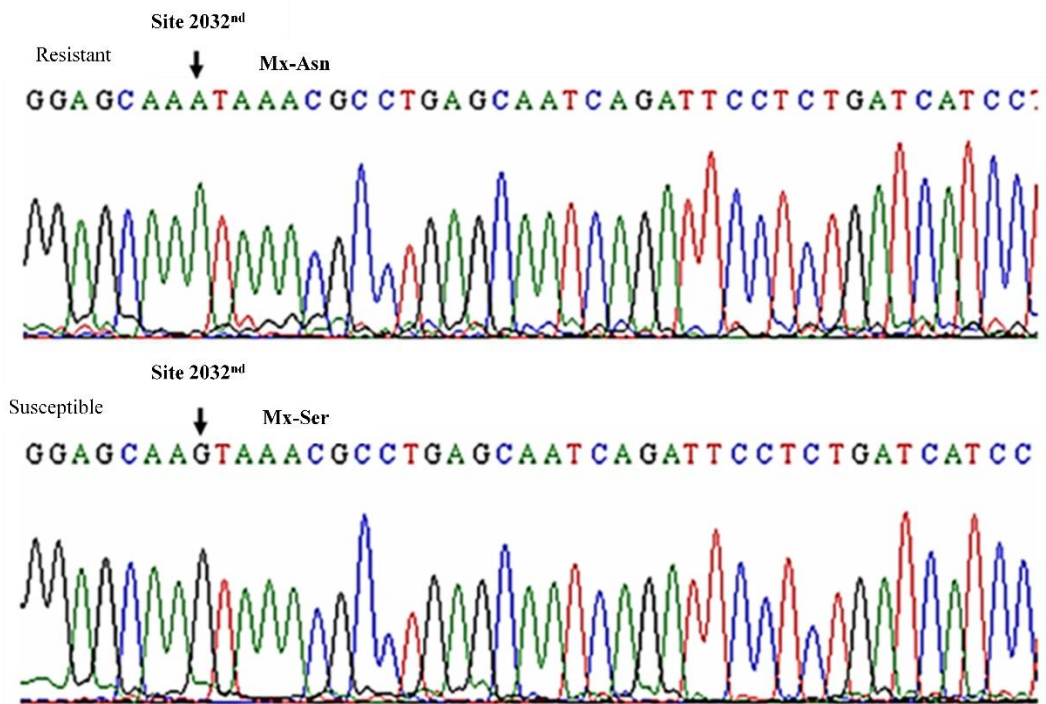
*Quality specification of Illumina NextSeq is supposed to produce bases above Q30 greater than 80% at 1x75bp.

Supplementary Table S2. Abundant distribution of RNAs in control and HPAI infected samples in the resistant and susceptible lines after 3 days post-infection

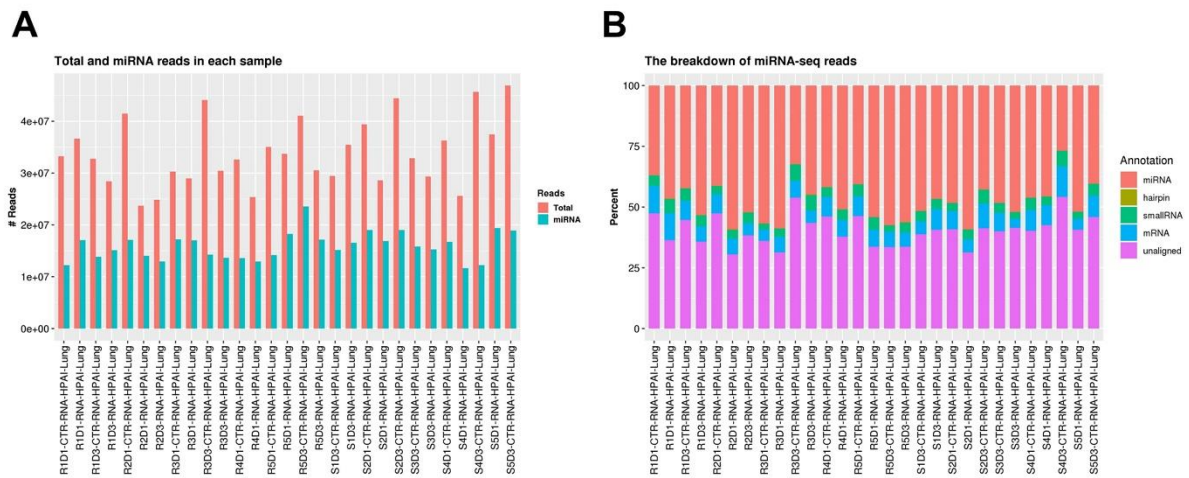
Sample	# total reads	#miRNA	#hairpin	#small RNA	#mRNA	#unaligned	#miRNA mismatch
R1D3-CTR-RNA-Lung	27,534,862	13,824,859	42,163	1,520,554	1,034,581	11,112,705	3,855,940
R3D3-CTR-RNA-Lung	39,668,284	14,248,362	46,188	2,835,433	1,575,911	20,962,390	3,098,616
R5D3-CTR-RNA-Lung	37,132,828	23,571,344	45,711	1,062,097	974,524	11,479,152	5,326,009
R1D3-RNA-HPAI-Lung	25,502,797	15,117,059	27,061	1,233,986	681,596	8,443,095	3,751,600
R2D3-RNA-HPAI-Lung	22,373,699	12,948,309	44,119	1,007,479	484,424	7,889,368	3,415,683
R5D3-RNA-HPAI-Lung	27,263,416	17,139,904	66,124	1,185,885	573,235	8,298,268	4,175,255
S1D3-CTR-RNA-Lung	27,152,111	15,168,844	37,601	1,174,991	802,107	9,968,568	3,484,479
S2D3-CTR-RNA-Lung	37,035,844	19,007,623	50,199	2,384,865	1,700,637	13,892,520	4,590,289
S3D3-CTR-RNA-Lung	28,718,600	15,836,778	32,166	1,277,122	948,465	10,624,069	3,914,340
S4D3-CTR-RNA-Lung	34,716,464	12,225,443	35,948	2,756,491	1,932,024	17,766,558	3,005,966
S5D3-CTR-RNA-Lung	40,355,951	18,894,193	47,312	2,182,256	1,676,784	17,555,406	4,910,382
S1D3-RNA-HPAI-Lung	29,854,259	16,521,258	39,285	1,378,080	1,026,851	10,888,785	4,866,222
S3D3-RNA-HPAI-Lung	26,745,916	15,231,973	29,052	754,299	535,362	10,195,230	4,073,946
Average	31,081,156	16,133,535	41,764	1,596,426	1,072,808	12,236,624	4036,056

Supplementary Table S3. Putative immune-related genes for DE miRNAs

miRNA	Number of immune-related target genes	log2(FC)	Immune-related target genes
gga-miR-100-5p	3	-1.192	SMARCA5, MTOR, TRIB2
gga-miR-126-5p	72	0.833	DLL4, RABL3, ZFAT, EPHB3, PAX1, MEIS1, GATA3, FAM20C, PDGFRA, C1S, FYB, C6, IDE, PLSCR1, TRAF3, BTN1, JAG1, ERAP1, DENND1B, NFAM1, CD99, CD226, CADM1, CDC73, SLIT2, CREB1, EREG, EPHB2, ISL1, SASH1, SPRED2, DUSP5, OSGIN1, RAMP3, PLCE1, GRM1, SLCO3A1, SPATA2, PRKCA, CCDC3, SOX1, DOK6, BIRC6, IL17A, ETV3, KCNQ1, ITGB8, TNC, MAPK10, ZBTB20, SPAST, EIF4A2, AP3B1, ITGB6R, RASA2, IQSEC1, KSR2, RAB30, NISCH, THBS2, PIP4K2B, ARPC1A, FGF12, FGF7, CHRM2, FGF14, LAMA3, PARD6G, COL11A1, FGD3, EHD3, COL5A1
gga-miR-140-3p	9	1.375	ABL1, SPAST, LOC771804, EPHA4, IL31RA, FRS2, LPL, KRAS, PIP4K2B,
gga-miR-148a-3p	84	0.704	SOS2, OTUD4, CBLB, FBN1, IFNG, CLOCK, GPAM, NPTN, ARL8B, TGFB2, PDE8A, STK38, IRF1, BACH2, ZFYVE26, SERINC3, ATM, AKAP1, BLOC1S5, MAP3K9, LCP1, TFEB, DLL1, LTBP1, PAPD4, MBP, CCBE1, INHBB, RC3H2, TMOD3, ACVR1, TOMM70, RC3H1, KIT, ITGAV, ROBO1, LIPA, CHD7, PTEN, ZDHHC17, SOCS5, SGPL1, FAM83D, DAPK2, PRKCZ, ROCK1, PICALM, LOC101749641, MAGI3, PKX, PHPT1, EDA, ALCAM, MAPK11, LRCH1, VEGFRKDRL, ADAM10, PIK3CD, DUSP7, ADAM23, NLRC5, TAB3, ADAMTS7, S1PR1, VAMP7, CDC42SE2, RALGPS1, CYTH3, STARD13, DNMT1, NRAS, STAM, VPS37B, ITGA11, TMSB4X, COL6A3, CLTA, ARHGEF4, ITGAV, VCL, PPP1CB, ACAP3, SSH2, PPP1R12A
gga-miR-22-3p	27	0.861	CREB1, KCTD10, CYR61, FAM49B, RBM15, IPO7, NET1, ZFYVE26, TOMM70, IL9R, PTPRT, TRAF3, NTRK2, SETD6, PATZ1, IL12B, PTEN, PLCG2, LRCH1, WASF1, KAT7, TIAM1, ZFYVE9, CCND2, AKT3, CLTCL1, MVB12B
gga-miR-27b-3p	99	0.879	CD247, PPARG, SEMA7A, CRKL, CBFb, SMAP1, C22H8ORF4, NF1, FBXW7, ANKRD17, GPAM, PRKCB, GATA2, FAM65B, ADCY7, DNM1L, VAV3, SPI1, HOXA5, FGL2, KITLG, TRIL, BCR, RORA, SLIT2, CREB1, DLL4, TROVE2, CHD7, PLA2G6, WNT2B, MKNK2, RPS6KB1, VEGFRKDRL, CALCR, PDGFRA, HACD3, NLK, HGF, INSR, DUSP5, HMGCR, RAPGEF2, SPRY2, SH3RF1, PELI2, FOXO1, SORL1, ZDHHC17, IKBKB, TAB3, RPS6KA5, CDH5, NFE2L2, NRP2, PLK2, GNA13, USP8, PIGA, NR5A2, IKBKB, KITLG, RASGEF1C, SORL1, PDGFRA, ARHGEF28, UBE2V1, XAF1, CREB1, IQSEC1, E2F7, CBFb, SPRY2, PPARG, PELI2, ADCY7, NLK, FGL2, SEMA7A, CRKL, TROVE2, NRP2, RORA, PLA2G6, FOXO1, P2RX7, ZDHHC17, PRKCB, DLL4, RAPGEF2, KPNB1, UGCG, CDH5, VAV3, RPS6KB1, CALCR, YTHDC2, RFX2, CHD7, ANKRD17, SPI1, NFE2L2, PCSK5, SLIT2, NFATC1, HACD3, SMAP1, RCOR1, CBLB, NF1, INSR, FAM65B, TAB3, GPR174, KDM3A, NFATC3, BCR, ISL1, ST3GAL6, WNT2B, TRIL, HOXA5, CCBE1, HMGCR, DNM1L, HGF, DUSP5, VEGFRKDRL, CD247, SH3RF1, RAB11FIP4, C4BPA, RAP1B, LIMK1, ARFGEF1, PIP5K1B, PIP5K1C, RELN, PXN, PDPK1, GRB2, SH3GL3, COL27A1, SNX12, PPP1CC, LIMK2, COL5A1, AKT3
gga-miR-2954	13	1.926	PDE4D, CRKL, SLC12A2, WDR7, SYK, PLK2, DAPK1, NFIL3, EIF4A2, ISL1, APC, ZFYVE16, PSD3
gga-miR-34c-3p	11	2.353	MITF, FAM49B, LSM14A, PLA2G6, NFATC3, FGL1, SSX2IP, GAB2, RBPJ, RAP1B, NCKAP1
gga-miR-499-5p	22	4.263	KCTD10, FYN, HNRNPU, MAPK6, MADD, MYO1C, FZD4, SOS2, RHOGL, ETS1, RET, EPHA7, PRKAR1A, ERCC6, VAV3, CASP6, NOTCH2, AQP4, RAB5C, SNX2, RABEP1, WIPF1
gga-miR-6606-5p	0	-6.596	
gga-miR-7b	36	-10.367	GLI3, MCF2, RALB, FANCC, KIF13A, SH3GLB1, PPARd, SNCA, LY6E, FER, IL1R2, KSR1, ARIH2, ARID4A, TNFRSF1A, NDFIP1, CACYBP, MAS1, TRAF3, BANK1, PRKCB, ASXL1, CDK9, VEGFD, ARFGAP1, KRAS, MECOM, NPC2, SLC12A2, ADRA1B, NTRK2, ITGA9, RRAS2, RNF151, FGF5, VCL
gga-miR-92-3p	71	1.194	MAP2K4, NEFH, FBXW7, PCOLCE2, KMT5B, AGO3, ADAM10, LRCH1, APPL1, BCL11B, DAGLB, DENND1B, RORA, MPP1, PTEN, AFF3, FAM20C, RAB3C, COL24A1, USP28, DUSP10, G3BP2, ADAM23, PTPRO, GFPT2, IQSEC1, RGL1, HIPK1, CDC42EP3, PIK3CD, FAM83D, NOX4, RHOJ, TET2, EZH2, GSN, PIGA, LRRK2, NKX2-3, DNAJB9, ITGA6, AHCTF1, TRAF3, NCSTN, DUSP5, UBASH3B, RAB39A, EPS8, DUSP1, KIF5B, MYH9, RBPJ, RUNX2, TOB2, PIK3CB, PDGFD, ROR1, ZBTB20, NPNT, IQGAP2, SMURF1, GIT2, NEDD4L, ARPC2, COL4A5, RAB11FIP1, PIK3R3, CLTC, WASL, CHRM2, PPP1R12A



Supplementary Fig. S1. *Mx* gene high resolution melting analysis genotyping results.



Supplementary Fig. S2. Annotations of **(A)** total and miRNA reads and **(B)** miRNA distributions among different categories of 29 quality checked samples after sequencing from whole samples (Table 1). 29 samples were H5N1-infected and non-infected samples on day 1 and day 3 resistant and susceptible lines. **(A)** Each row represents samples, and the vertical axis represents reads. **(B)** Each category was marked with a different color. The horizontal line represents samples and the vertical axis show the percentage of each category.