

## Supplementary Results

Table S1. Sequences of the DNA primers for biotined promoters

Name	Sequence (5'-3')
polh	Forward: GCTGGCAACTGCAAGGGCCTC Reverse: GGTGTATGAATAATTCGGCAT
P10	Forward: GAAATTATGCATTTGAGGATG Reverse: GTGTCAAAACGTTAGGCTTTG

Table S2. Sequences of the DNA primers for RT-qPCR

Name	Sequence (5'-3')
polh	Forward: AGGTGCTACAAGTTCCTCGC Reverse: TCGTTGTTTCATGCCCACGTA
P10	Forward: AACGGGCTGGAAGAATCGTT Reverse: GAGCAGTGTCAACCGGTCAAT
39K	Forward: TGCAGGACGAACGCAAAATG Reverse: AAAATCTGCCAATTCGGGCG
28S rRNA	Forward: CGACGTTGCTTTTGTATCCT Reverse: GCAACGACAAGCCATCAGTA
Actin	Forward: GCCTCCCTCTCTACCTTCCA Reverse: CAAGCCTGAATTGAGCAGCC

Table S3. Primers used in Co-IP assays

Name	Sequence (5'-3') Underlined sequences indicate the enzyme digestion site for each primer.
P47-HA	Forward: <u>gggATCC</u> ATGTTTGTCACCCG Reverse: <u>gAATTCT</u> CAAGCGTAATCTGGAACATCGTATGGGTAGTATAACGACTGGTCAAA ATTG
LEF4-HA	Forward: <u>gggATCC</u> ATGGACCACGGCAATTTTATG Reverse: <u>gAATTCT</u> TAAGCGTAATCTGGAACATCGTATGGGTAAATTTGGCACGATTCGGTC GCGAC
LEF8-HA	Forward: <u>gggATCC</u> ATGACGGACGTAGTTCAAGATTTCAACGAG Reverse: <u>gAATTCT</u> CAAGCGTAATCTGGAACATCGTATGGGTAAATTTTCATTATCGTATTG TTGC
LEF9-HA	Forward: <u>gggATCC</u> ATGTTTTCTTTTTTGGATAAACTCCTACTGAG Reverse: <u>gAATTCT</u> CAAGCGTAATCTGGAACATCGTATGGGTATTCAATAAACATGTGAG C
PK1-HA	Forward: <u>gggATCC</u> ATGGCCACCACCGCCACAAATGC

	Reverse: <u>gAATTCT</u> CAAGCGTAATCTGGAACATCGTATGGGTACGACAAAACTCATG
IE1-HA	Forward: <u>gggATCC</u> ATGACGCAAATTAATTTTAACGCGTCGTACACCAGTGCTCCG Reverse: <u>gAATTCT</u> TAAGCGTAATCTGGAACATCGTATGGGTAAATTAAATTCAATTTTTTTA T
VLF1-HA	Forward: <u>gggATCC</u> ATGAACGGTTTTAATGTTTCGCAACG Reverse: <u>gAATTCT</u> TAAGCGTAATCTGGAACATCGTATGGGTATTCGTTGCGATAGTACA CAACG
Actin-Flag	Forward: <u>gggATCC</u> ATGTGCGACGAAGAAGTTGCC Reverse: <u>gAATTCT</u> TACTTATCGTCGTCATCCTTGTAATCGAAGCACTTCCTGTGTAC

Restriction enzyme sites are underlined. *Bam*HI, GGATCC; *Eco*RI, GAATTC

Table S4. Sequences of the DNA primers for ChIP-qPCR

Name	Sequence (5'-3')
Polh F1	Forward: AGGCTTTGGAGTTTACTACAGA Reverse: TAACATACAACGCTTTTGATTT
Polh F2	Forward: GTTTTGAGCGAAGACGGC Reverse: ATTATTCACGATTGCCGCT
Polh F3	Forward: TTACAACAGGGGGGACTATG Reverse:ACCTTTGTGTTAGTTTCCGC
Polh F4	Forward: TGACCGGTGACACTGCTC Reverse: GATTTATTTACTTGGAACTGCG
P10 F1	Forward: TTCAGAGAAACCAGTCGCC Reverse: GACGCCCAAGCGACAGTA
P10 F2	Forward: GTGGAGTCCTCTCATAGCG Reverse: CGCCATTGTAGAATACCGTG
P10 F3	Forward: CCATCTCGCAAATAAATAAG Reverse: CATAAGAGTCCTTCTGTCCC
P10 F4	Forward: CGTGATGGTCGGTATGGG Reverse: CCCAGTTAGTGACGATTCCG

Table S5. Sequences of the DNA primers for amplification

Applications	Name	Sequence (5'-3')
Amplification of luc for pFastBac HTB plasmid	pFast-HTB-luc	Forward: <u>GGATCC</u> GGCAATCCGGTACTGTTGGT AAAGC Reverse: <u>GAATTC</u> ACGGCGATCTTGCCGCCCTTC TTGGCCTTAAT

Amplification of luc for pFastBac Dual plasmid	pFast-Dual-luc	Forward: <u>CTCGAGGGCAATCCGGT</u> ACTGTTGGTAAAGC Reverse: <u>GGTACC</u> ACGGCGATCTTGCCGCCCTTC TTGGCCTTAAT
Amplification of actin for PIZ-v5 plasmid	PIZ-actin	Forward: <u>GGATCC</u> ATGTGCGACGAAGAAGTTGCC Reverse: <u>GAATTC</u> TTACTTATCGTCGTCATCCTTGTAATCGAAGCACTTCCTGTGTAC

Restriction enzyme sites are underlined. *Bam*HI, GGATCC; *Eco*RI, GAATTC; *Xho*I, CTCGAG; *Kpn*I, GGTACC

Table S6. List of potential polh and p10 interacting proteins of BmNPV identified by LC-MS/MS.

Accession	Description	Coverage	Unique Peptides	Peptides
O92432	LEF-3 OS=Bombyx mori nuclear polyhedrosis virus OX=271108 GN=lef-3 PE=4 SV=1 - [O92432_NPVBM]	43.38	1	19
O92407	p47 OS=Bombyx mori nuclear polyhedrosis virus OX=271108 GN=p47 PE=4 SV=1 - [O92407_NPVBM]	39.85	18	18
I7A7I0	p6.9 OS=Bombyx mandarina nucleopolyhedrovirus S2 OX=1208064 GN=p6.9 PE=4 SV=1 - [I7A7I0_NPVBM]	27.69	1	2
I7B1P8	BV/ODV-NC50 OS=Bombyx mandarina nucleopolyhedrovirus S2 OX=1208064 GN=bv PE=4 SV=1 - [I7B1P8_NPVBM]	22.90	13	14
I7ASQ0	Alkaline nuclease OS=Bombyx mandarina nucleopolyhedrovirus S2 OX=1208064 GN=Bomanpvs2gp115 PE=4 SV=1 - [I7ASQ0_NPVBM]	22.43	1	13
I6ZWQ6	39K protein OS=Bombyx mandarina nucleopolyhedrovirus S2 OX=1208064 GN=Bomanpvs2gp028 PE=4 SV=1 - [I6ZWQ6_NPVBM]	20.94	6	6
K4GHJ0	VLF-1 OS=Bombyx mori nuclear polyhedrosis virus OX=271108 GN=Bmnpvindiagp065 PE=4 SV=1 - [K4GHJ0_NPVBM]	20.16	11	11
I7B5F3	Ubiquitin OS=Bombyx mandarina nucleopolyhedrovirus S2 OX=1208064 GN=Bomanpvs2gp027 PE=4 SV=1 - [I7B5F3_NPVBM]	19.48	2	2

O92415	LEF-8 OS=Bombyx mori nuclear polyhedrosis virus OX=271108 GN=lef-8 PE=4 SV=1 - [O92415_NPVBM]	5.02	6	6
O92427	LEF-9 OS=Bombyx mori nuclear polyhedrosis virus OX=271108 GN=lef-9 PE=4 SV=1 - [O92427_NPVBM]	3.67	3	3

Table S7. List of potential polh and p10 interacting proteins of host identified by LC-MS/MS.

Accession	Description	Coverage	Unique Peptides	Peptides
S5M6C1	Actin-4 OS=Bombyx mori OX=7091 PE=2 SV=1 - [S5M6C1_BOMMO]	42.05	18	18
H9J7S2	Ribosome biogenesis regulatory protein OS=Bombyx mori OX=7091 GN=101743869 PE=3 SV=1 - [H9J7S2_BOMMO]	41.76	15	14
H9JYF8	H15 domain-containing protein OS=Bombyx mori OX=7091 GN=101740214 PE=3 SV=1 - [H9JYF8_BOMMO]	40.71	10	10
H9JBE0	Uncharacterized protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JBE0_BOMMO]	34.86	13	13
O76149	Tubulin beta chain OS=Bombyx mori OX=7091 GN=bmtub2 PE=2 SV=1 - [Q8T8B2_BOMMO]	32.44	6	13
H9JB82	Protein kinase domain-containing protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JB82_BOMMO]	30.30	13	13
H9JX90	KH domain-containing protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JX90_BOMMO]	29.97	13	13
H9JCL8	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JCL8_BOMMO]	26.75	12	12
H9J271	Elongation factor 1-alpha OS=Bombyx mori OX=7091 GN=EF1a PE=2 SV=1 - [H9J271_BOMMO]	25.92	12	13
B9VS67	HnRNPA/B-like 28 OS=Bombyx mori OX=7091 GN=hrp28 PE=2 SV=1 - [B9VS67_BOMMO]	23.83	2	5
H9J789	KRR1 small subunit processome component OS=Bombyx mori OX=7091 GN=101743195 PE=3 SV=1 - [H9J789_BOMMO]	23.49	7	7
H9JVK4	Uncharacterized protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JVK4_BOMMO]	23.00	12	12
H9JSJ2	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JSJ2_BOMMO]	22.65	12	12

H9JSP8	Uncharacterized protein OS=Bombyx mori OX=7091 GN=101740273 PE=4 SV=1 - [H9JSP8_BOMMO]	20.45	10	10
H9J7G0	Ribosome biogenesis protein WDR12 homolog OS=Bombyx mori OX=7091 GN=101736588 PE=3 SV=1 - [H9J7G0_BOMMO]	19.76	8	8
H9IYV4	Uncharacterized protein OS=Bombyx mori OX=7091 GN=101741225 PE=4 SV=1 - [H9IYV4_BOMMO]	19.51	9	9
H9JSN0	Uncharacterized protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JSN0_BOMMO]	17.96	6	6
H9JR08	Uncharacterized protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JR08_BOMMO]	16.24	8	11
H9JJ94	WD_REPEATS_REGION domain-containing protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JJ94_BOMMO]	16.02	7	7
H9JR28	RRM domain-containing protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JR28_BOMMO]	14.82	9	9
H9JMI6	Nop domain-containing protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JMI6_BOMMO]	14.52	7	7
H9JTB0	Uncharacterized protein OS=Bombyx mori OX=7091 GN=101741115 PE=4 SV=1 - [H9JTB0_BOMMO]	14.35	7	7
Q5UAT7	Ribosomal protein L4 OS=Bombyx mori OX=7091 GN=RpL4 PE=2 SV=1 - [Q5UAT7_BOMMO]	13.08	6	7
H9J7A3	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9J7A3_BOMMO]	12.64	5	5
H9JR70	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JR70_BOMMO]	12.54	4	4
H9J5J4	Protein CLP1 homolog OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9J5J4_BOMMO]	12.31	6	6
H9JXB6	Uncharacterized protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JXB6_BOMMO]	11.20	6	6
H9JDE4	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JDE4_BOMMO]	10.33	4	4
H9JK50	Uncharacterized protein OS=Bombyx mori OX=7091 GN=101738695 PE=4 SV=1 - [H9JK50_BOMMO]	10.31	5	5
H9IS99	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9IS99_BOMMO]	10.06	2	2
H9JA60	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JA60_BOMMO]	9.14	4	4

H9J2U6	PUA domain-containing protein OS=Bombyx mori OX=7091 GN=101744752 PE=4 SV=1 - [H9J2U6_BOMMO]	8.82	5	5
H9J150	G-patch domain-containing protein OS=Bombyx mori OX=7091 GN=101739259 PE=4 SV=1 - [H9J150_BOMMO]	7.27	3	3
H9JT95	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JT95_BOMMO]	7.17	2	2
H9JJI4	RRM domain-containing protein OS=Bombyx mori OX=7091 GN=101746268 PE=4 SV=1 - [H9JJI4_BOMMO]	6.41	5	5
H9JR08	Uncharacterized protein OS=Bombyx mori OX=7091 PE=3 SV=1 - [H9JR08_BOMMO]	8.44	6	6
H9JKX7	Uncharacterized protein OS=Bombyx mori OX=7091 PE=4 SV=1 - [H9JKX7_BOMMO]	8.96	4	4

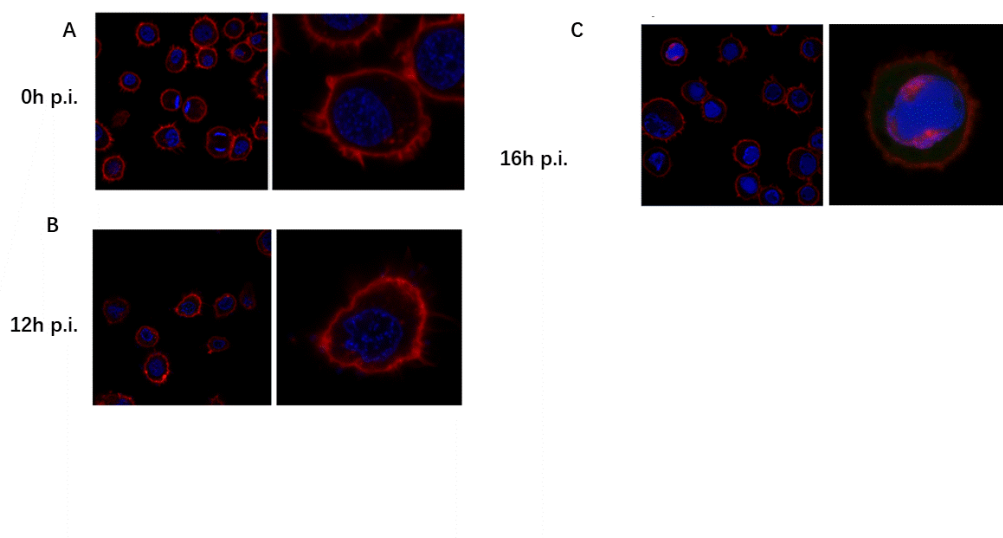
Table S8. List of actin binding sites were identified in viral genome from ChIP-seq

Gene	Gene Inside
Bmnpvvp003	Bmnpvvp003:NC_001962.1:2394-3222:+:-646
Bmnpvvp004	Bmnpvvp004:NC_001962.1:3247-4270:-:395
Bmnpvvp006	Bmnpvvp006:NC_001962.1:5479-6292:-:164
Bmnpvvp007	Bmnpvvp007:NC_001962.1:6406-7927:+:494
Bmnpvvp012	Bmnpvvp012:NC_001962.1:10458-10791:+:864
Bmnpvvp014	Bmnpvvp014:NC_001962.1:12334-13483:+:621
Bmnpvvp017	Bmnpvvp017:NC_001962.1:16185-17139:-:259
Bmnpvvp020	Bmnpvvp020:NC_001962.1:18488-19010:+:-90
Bmnpvvp021	Bmnpvvp021:NC_001962.1:19128-19344:-:-610
Bmnpvvp023	Bmnpvvp023:NC_001962.1:20851-21805:-:466
Bmnpvvp026	Bmnpvvp026:NC_001962.1:23406-23955:+:214
Bmnpvvp027	Bmnpvvp027:NC_001962.1:24366-25014:-:217
Bmnpvvp029	Bmnpvvp029:NC_001962.1:25320-26154:-:498
Bmnpvvp030	Bmnpvvp030:NC_001962.1:26147-26486:-:-199
Bmnpvvp033	Bmnpvvp033:NC_001962.1:28265-29465:-:449
Bmnpvvp035	Bmnpvvp035:NC_001962.1:30151-31672:+:328
Bmnpvvp036	Bmnpvvp036:NC_001962.1:31685-31922:+:-52
Bmnpvvp039	Bmnpvvp039:NC_001962.1:32865-34974:+:1057
Bmnpvvp040	Bmnpvvp040:NC_001962.1:35072-35342:-:-894
Bmnpvvp041	Bmnpvvp041:NC_001962.1:35593-38227:-:693

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Bmnpvvp046	Bmnpvvp046:NC_001962.1:40299-41397:+:68
Bmnpvvp049	Bmnpvvp049:NC_001962.1:42220-42706:+:503
Bmnpvvp052	Bmnpvvp052:NC_001962.1:43653-44298:-:277
Bmnpvvp054	Bmnpvvp054:NC_001962.1:45934-46402:+:747
Bmnpvvp055	Bmnpvvp055:NC_001962.1:46478-47363:-:398
Bmnpvvp056	Bmnpvvp056:NC_001962.1:47492-50453:-:1117
Bmnpvvp058	Bmnpvvp058:NC_001962.1:52881-54039:-:1096
Bmnpvvp060	Bmnpvvp060:NC_001962.1:54439-55228:+:45
Bmnpvvp062	Bmnpvvp062:NC_001962.1:56184-56367:+:315
Bmnpvvp067	Bmnpvvp067:NC_001962.1:58189-59329:-:261
Bmnpvvp072	Bmnpvvp072:NC_001962.1:61737-62283:-:566
Bmnpvvp076	Bmnpvvp076:NC_001962.1:67519-68572:-:97
Bmnpvvp081	Bmnpvvp081:NC_001962.1:71756-72443:+:164
Bmnpvvp081	Bmnpvvp081:NC_001962.1:71756-72443:+:1423
Bmnpvvp083	Bmnpvvp083:NC_001962.1:76131-76680:+:1773
Bmnpvvp083	Bmnpvvp083:NC_001962.1:76131-76680:+:267
Bmnpvvp085	Bmnpvvp085:NC_001962.1:77569-78526:+:718
Bmnpvvp090	Bmnpvvp090:NC_001962.1:81698-82070:-:67
Bmnpvvp095	Bmnpvvp095:NC_001962.1:87451-87769:-:544
Bmnpvvp099	Bmnpvvp099:NC_001962.1:90088-91363:-:727
Bmnpvvp100	Bmnpvvp100:NC_001962.1:91384-91999:-:218
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Bmnpvvp107	Bmnpvvp107:NC_001962.1:94758-95436:-:134
Bmnpvvp109	Bmnpvvp109:NC_001962.1:96375-97059:-:802
Bmnpvvp112	Bmnpvvp112:NC_001962.1:99843-101436:-:557
Bmnpvvp116	Bmnpvvp116:NC_001962.1:103509-104172:+:88
Bmnpvvp117	Bmnpvvp117:NC_001962.1:104199-105462:+:562
Bmnpvvp121	Bmnpvvp121:NC_001962.1:107701-108424:+:378
Bmnpvvp123	Bmnpvvp123:NC_001962.1:108795-110733:-:778
Bmnpvvp124	Bmnpvvp124:NC_001962.1:110963-112319:-:742
Bmnpvvp125	Bmnpvvp125:NC_001962.1:112595-113381:+:51
Bmnpvvp126	Bmnpvvp126:NC_001962.1:113395-114826:+:297
Bmnpvvp128	Bmnpvvp128:NC_001962.1:115153-116026:+:356
Bmnpvvp130	Bmnpvvp130:NC_001962.1:116322-116928:-:417

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**Figure S1. The timing of nuclear recruitment and polymerization of actin**

(A) Staining of uninfected cells. F-actin was stained by YF594-Phalloidin (red) (Hangzhou Baimaihang Technology Co., Ltd.)

(B) Staining of Cells infected with BmNPV at 12h p.i..

(C) Staining of Cells infected with BmNPV at 16 p.i..



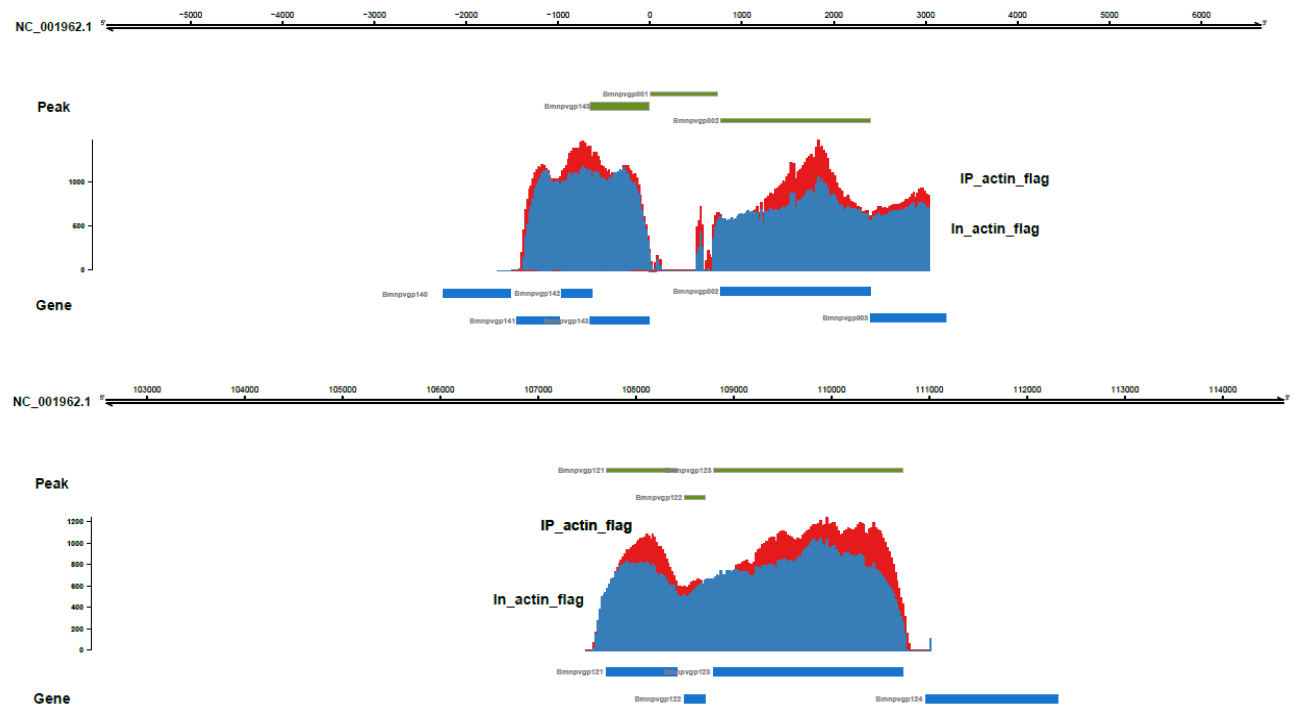


Figure S2. The *polh* and *p10* mapping pattern of ChIP-seq reads

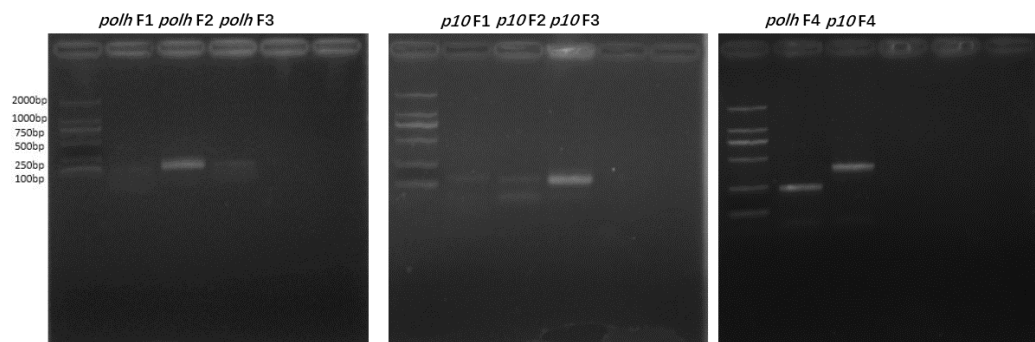
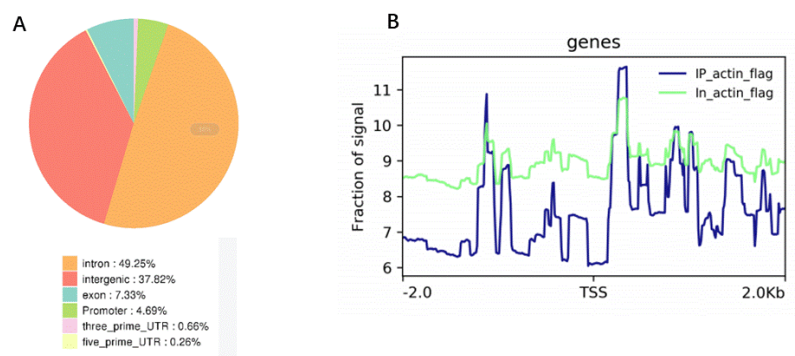


Figure S3. The test of primers used in ChIP-qPCR

The amplifying sequences within or close to the *polh* and *p10* promoter region were designed for PCR detection.



**Figure S4. ChIP-seq on host gene.**

(A) Statistics of distribution of actin binding sites in the host genome

(B) Distribution of actin binding sites in the host genic regions.