

Table SI. Primer sequences used to detect the mRNA expression levels of nine tumor-related genes in T98G and HA cells by reverse transcription-quantitative PCR.

Gene	Primer sequence (5'-3')
MYC	F: GGCTCCTGGCAAAAGGTCA
	R: CTGCGTAGTTGTGCTGATGT
MYB	F: TCCATACCCTGTAGCGTTA
	R: GGTCTGGTGTGGTCGGCAA
BCL-2	F: ATTGTGGCCTTCTTTGAGTTCG
	R: CATCCCAGCCTCCGTTATCC
BNIP3	F: AGCAATAATGGGAACGGG
	R: TGTGGTGTCTGCGAGCGA
P53	F: CGCACAGAGGAAGAGAATC
	R: TTTATGGCGGGAGGTAGAC
PTEN	F: TTGATGATGTAGTAAGGTT
	R: AAAGGGTTTGATAAGTTC
PI3K	F: AGTAGGCAACCGTGAAGAAAAG
	R: GAGGTGAATTGAGGTCCCTAAGA
AKT	F: CAAGGGCACTTTCGGC
	R: AGGCGGTCGTGGGTCT
mTOR	F: GCAGATTTGCCAACTATCTTCGG
	R: CAGCGGTAAAAGTGTCCCCTG
β -actin	F: CACAGAGCCTCGCCTTTG
	R: GTCGCCACATAGGAATC

BNIP3, BCL-2-interacting protein 3; F, forward; R, reverse.

Table SII. Primer sequences used to detect the mRNA expression levels of nine tumor-related genes in *Spodoptera litura* by reverse transcription-quantitative PCR.

Gene	Primer sequence (5'-3')
MYC	F: CCACAGTTCCGTCATTCGGTAGAT
	R: TCACATGAGTCAGAGGGTGTTTGC
MYB	F: CCTTCAACGAATCAGCCCAA
	R: TGAGCGGTGAGTCTGTTGGT
BCL-2	F: GATGGCGAAGAAGATGACGAGT
	R: TGCTGCTTGAGACCATAGTGCT
BNIP3	F: GCCGTCTACTGAAGATGAA
	R: GGAGGAGGTGGCTGAAGGT
P53	F: TGGCAAAGAATGTCCTCC
	R: GAACTGGTAAGCGTGGGT
PTEN	F: AAAGGCGTGACGATTCCG
	R: TCTTGAAGGAAGGCTGTGC
PI3K	F: GCGTTATGACCCGAAAAGC
	R: AGGCCCGATGGTAAACTGTG
AKT	F: AACTGGCGTGACCGTACTT
	R: CACCCACTCCTCACGTTCTT
mTOR	F: TGGAACCGCAAGATGAAGAC
	R: AATCCCACTCCTGTAGACCC
β -actin	F: CGAGAAATCGTGCGTGACA
	R: GTCCGTCGGGAAGTTCATAG

BNIP3, BCL-2-interacting protein 3; F, forward; R, reverse.

Table SIII. Accession number of gene sequences in NCBI used to construct the NJ tree.

Gene	Species	Accession number
MYC	<i>Danio rerio</i>	NM_131412.1
	<i>Pieris rapae</i>	XM_022262020.1
	<i>Spodoptera frugiperda</i>	XM_035588795.1
	<i>Galleria mellonella</i>	XM_026905242.2
	<i>Trichoplusia ni</i>	XM_026877506.1
	<i>Papilio xuthus</i>	XM_013316807.1
	<i>Drosophila melanogaster</i>	NM_001272275.1
	<i>Mesocricetus auratus</i>	XM_005078685.3
	<i>Bombyx mori</i>	NM_001257008.1
	<i>Macaca mulatta</i>	XM_028852119.1
	<i>Helicoverpa armigera</i>	XM_021331012.1
	<i>Bos taurus</i>	NM_001046074.2
	<i>Homo sapiens</i>	NM_001354870.1
	<i>Vanessa tameamea</i>	XM_026633442.1
	<i>Plutella xylostella</i>	XM_011556207.1
	<i>Mus musculus</i>	NM_001177352.1
	<i>Gorilla gorilla</i>	XM_004047526.3
	<i>Ostrinia furnacalis</i>	XM_028318366.1
	<i>Sus scrofa</i>	NM_001005154.1
	<i>Spodoptera litura</i>	XM_022974058.1
MYB	<i>Danio rerio</i>	NM_001309822.1

	<i>Pieris rapae</i>	XM_022270117.1
	<i>Spodoptera frugiperda</i>	XM_035598865.1
	<i>Galleria mellonella</i>	XM_026901532.2
	<i>Trichoplusia ni</i>	XM_026880288.1
	<i>Papilio xuthus</i>	XM_013313385.1
	<i>Drosophila melanogaster</i>	NM_206733.2
	<i>Mesocricetus auratus</i>	XM_036976418.1
	<i>Bombyx mori</i>	XM_038021060.1
	<i>Macaca mulatta</i>	XM_028847137.1
	<i>Helicoverpa armigera</i>	XM_021338198.1
	<i>Bos taurus</i>	XM_005210940.4
	<i>Homo sapiens</i>	NM_001130173.2
	<i>Vanessa tameamea</i>	XM_026641939.1
	<i>Plutella xylostella</i>	XM_038121459.1
	<i>Mus musculus</i>	NM_001198914.1
	<i>Gorilla gorilla</i>	XM_019030209.2
	<i>Ostrinia furnacalis</i>	XM_028312452.1
	<i>Sus scrofa</i>	XM_001928929.6
	<i>Spodoptera litura</i>	XM_022981513.1
BCL-2	<i>Danio rerio</i>	NM_001030253.2

	<i>Canis lupus</i>	NM_001002949.1
	<i>Pan troglodytes</i>	XM_001145537.4
	<i>Apis mellifera</i>	XM_016911504.2
	<i>Gallus gallus</i>	NM_205339.2
	<i>Papilio xuthus</i>	XM_013325624.1
	<i>Drosophila melanogaster</i>	NM_176098.3
	<i>Mesocricetus auratus</i>	XM_005081454.3
	<i>Bombyx mori</i>	NM_001204480.1
	<i>Macaca mulatta</i>	XM_028838050.1
	<i>Heterocephalus glaber</i>	XM_004858446.2
	<i>Bos taurus</i>	NM_001166486.1
	<i>Homo sapiens</i>	NM_000633.3
	<i>Oryctolagus cuniculus</i>	XM_008261439.2
	<i>Plutella xylostella</i>	XM_011556684.2
	<i>Mus musculus</i>	NM_009741.5
	<i>Gorilla gorilla</i>	XM_004059501.3
	<i>Culex quinquefasciatus</i>	XM_038256094.1
	<i>Sus scrofa</i>	XM_021099593.1
	<i>Spodoptera litura</i>	XM_022978185.1
BNIP3	<i>Danio rerio</i>	XM_005172968.4

	<i>Pieris rapae</i>	XM_022258418.1
	<i>Spodoptera frugiperda</i>	XM_035601600.1
	<i>Galleria mellonella</i>	XM_031911814.1
	<i>Trichoplusia ni</i>	XM_026868711.1
	<i>Papilio xuthus</i>	XM_013323508.1
	<i>Drosophila melanogaster</i>	NM_206403.2
	<i>Mesocricetus auratus</i>	XM_021228152.1
	<i>Bombyx mori</i>	XM_038013790.1
	<i>Macaca mulatta</i>	XM_015148471.2
	<i>Helicoverpa armigera</i>	XM_021341504.1
	<i>Bos taurus</i>	NM_001076366.1
	<i>Homo sapiens</i>	NM_004052.3
	<i>Vanessa tameamea</i>	XM_026631306.1
	<i>Plutella xylostella</i>	XM_038116164.1
	<i>Mus musculus</i>	NM_009760.4
	<i>Gorilla gorilla</i>	XM_019034878.2
	<i>Ostrinia furnacalis</i>	XM_028323631.1
	<i>Sus scrofa</i>	XM_003359404.4
	<i>Spodoptera litura</i>	XM_022975650.1
P53	<i>Danio rerio</i>	NM_001271820.1

	<i>Pieris rapae</i>	XM_022270855.1
	<i>Spodoptera frugiperda</i>	XM_035592706.1
	<i>Galleria mellonella</i>	XM_026899393.2
	<i>Trichoplusia ni</i>	XM_026884586.1
	<i>Papilio xuthus</i>	XM_013312509.1
	<i>Drosophila melanogaster</i>	NM_206545.2
	<i>Mesocricetus auratus</i>	NM_001281661.1
	<i>Bombyx mori</i>	NM_001177410.1
	<i>Macaca mulatta</i>	NM_001047151.2
	<i>Helicoverpa armigera</i>	XM_021328094.1
	<i>Bos taurus</i>	XM_010815982.3
	<i>Homo sapiens</i>	NM_000546.6
	<i>Vanessa tameamea</i>	XM_026633215.1
	<i>Plutella xylostella</i>	XM_038118680.1
	<i>Mus musculus</i>	NM_011640.3
	<i>Gorilla gorilla</i>	XM_004058511.3
	<i>Ostrinia furnacalis</i>	XM_028312536.1
	<i>Sus scrofa</i>	NM_213824.3
	<i>Spodoptera litura</i>	XM_022975862.1
PTEN	<i>Danio rerio</i>	NM_001001822.2

	<i>Pieris rapae</i>	XM_022260393.1
	<i>Spodoptera frugiperda</i>	XM_035587927.1
	<i>Galleria mellonella</i>	XM_026900320.2
	<i>Trichoplusia ni</i>	XM_026877330.1
	<i>Papilio xuthus</i>	XM_013324653.1
	<i>Drosophila melanogaster</i>	NM_134320.3
	<i>Mesocricetus auratus</i>	XM_005063688.3
	<i>Bombyx mori</i>	XM_038020520.1
	<i>Macaca mulatta</i>	NM_001260965.1
	<i>Helicoverpa armigera</i>	XM_021330463.1
	<i>Bos taurus</i>	NM_001319898.1
	<i>Homo sapiens</i>	NM_000314.8
	<i>Vanessa tameamea</i>	XM_026632222.1
	<i>Plutella xylostella</i>	XM_038117073.1
	<i>Mus musculus</i>	NM_008960.2
	<i>Gorilla gorilla</i>	XM_019035118.2
	<i>Ostrinia furnacalis</i>	XM_028302924.1
	<i>Sus scrofa</i>	NM_001143696.1
	<i>Spodoptera litura</i>	NC_036203.1
PI3K	<i>Danio rerio</i>	XM_009306176.3

	<i>Pieris rapae</i>	XM_022261176.1
	<i>Apis mellifera</i>	XM_016917733.2
	<i>Galleria mellonella</i>	XM_026909464.2
	<i>Trichoplusia ni</i>	XM_026890504.1
	<i>Papilio xuthus</i>	XM_013306223.1
	<i>Drosophila melanogaster</i>	NM_169910.2
	<i>Mesocricetus auratus</i>	XM_005069732.3
	<i>Bombyx mori</i>	NM_001127721.1
	<i>Macaca mulatta</i>	NM_001260668.1
	<i>Helicoverpa armigera</i>	XM_021337561.1
	<i>Bos taurus</i>	NM_174574.1
	<i>Homo sapiens</i>	NM_006218.4
	<i>Vanessa tameamea</i>	XM_026635549.1
	<i>Plutella xylostella</i>	XM_011559348.2
	<i>Mus musculus</i>	NM_008839.3
	<i>Gorilla gorilla</i>	XM_004038036.3
	<i>Ostrinia furnacalis</i>	XM_028308100.1
	<i>Sus scrofa</i>	XM_021069859.1
	<i>Spodoptera litura</i>	XM_022973169.1
AKT	<i>Danio rerio</i>	XM_021467101.1

	<i>Pieris rapae</i>	XM_022257542.1
	<i>Apis mellifera</i>	XM_396874.7
	<i>Oryctolagus cuniculus</i>	XM_017339297.1
	<i>Trichoplusia ni</i>	XM_026874502.1
	<i>Papilio xuthus</i>	XM_013317276.1
	<i>Drosophila melanogaster</i>	NM_169706.2
	<i>Mesocricetus auratus</i>	XM_013112191.2
	<i>Bombyx mori</i>	XM_038017116.1
	<i>Macaca mulatta</i>	XM_028850230.1
	<i>Helicoverpa armigera</i>	XM_021325337.1
	<i>Bos taurus</i>	NM_173986.2
	<i>Homo sapiens</i>	NM_005163.2
	<i>Vanessa tameamea</i>	XM_026627524.1
	<i>Plutella xylostella</i>	XM_011558099.2
	<i>Mus musculus</i>	NM_001165894.1
	<i>Gorilla gorilla</i>	XM_004060738.3
	<i>Ostrinia furnacalis</i>	XM_028303387.1
	<i>Sus scrofa</i>	NM_001159776.1
	<i>Spodoptera litura</i>	XM_022971351.1
mTOR	<i>Danio rerio</i>	NM_001077211.2
	<i>Pieris rapae</i>	XM_022274231.1
	<i>Apis mellifera</i>	XM_006566642.3
	<i>Spodoptera frugiperda</i>	XM_035587778.1
	<i>Galleria mellonella</i>	XM_026900561.2
	<i>Trichoplusia ni</i>	XM_026890506.1
	<i>Papilio xuthus</i>	XM_013324452.1
	<i>Drosophila melanogaster</i>	NM_001273498.1
	<i>Mesocricetus auratus</i>	XM_005079329.3
	<i>Bombyx mori</i>	NM_001190843.1
	<i>Macaca mulatta</i>	XM_015111100.2
	<i>Helicoverpa armigera</i>	XM_021334088.1
	<i>Bos taurus</i>	XM_002694043.6
	<i>Homo sapiens</i>	NM_004958.4
	<i>Vanessa tameamea</i>	XM_026639828.1
	<i>Plutella xylostella</i>	XM_011562133.2
	<i>Mus musculus</i>	XM_006539077.3
	<i>Gorilla gorilla</i>	XM_031011230.1

	<i>Ostrinia furnacalis</i>	XM_028305848.1
	<i>Sus scrofa</i>	XM_003127584.6
	<i>Spodoptera litura</i>	XM_022966802.1

BNIP3, BCL-2-interacting protein 3.