Supplementary tables.

Table S1. List of primers used in constructing plasmids.

Plasmids	Restriction enzyme sites	Primers (forward)	Primers (reverse)
pCMV-HA-UL25	EcoRI and XhoI	CGGAATTCAAATGGACCC GTACTGCCCATTTGACG	CCGCTCGAGCTAAACCG CCGACAGGT

Table S2. Sequence of siRNAs used in our study.

Name	Targeting Sequence
si-YY1-1	Sense: GCCUCUCCUUUGUAUAUUAUU
	Antisense: AAUAAUAUACAAAGGAGAGGC
si-YY1-2	Sense: CCCAAACAACUGGCAGAAUUU
	Antisense: AAAUUCUGCCAGUUGUUUGGG
si-YY1-3	Sense: CCUCCUGAUUAUUCAGAAUAU
	Antisense: AUAUUCUGAAUAAUCAGGAGG
si-STAT4-1	Sense: CGCACCAAGAAAGGAAGCAAA
	Antisense: UUUGCUUCCUUUCUUGGUGCG
si-STAT4-2	Sense: GCGAGACUACAAAGUUAUUAU
	Antisense: AUAAUAACUUUGUAGUCUCGC
si-STAT4-3	Sense: GCUUUACACUAUUGGCAGAAA
	Antisense: UUUCUGCCAAUAGUGUAAAGC
si-C/EBPβ-1	Sense: UGGUGUUAUUUAAAGAA
	Antisense: UUCUUUAAAUAACACCA
si-C/EBPβ-2	Sense: ACAAGCACAGCGACGAGUACA
	Antisense: UGUACUCGUCGCUGUGCUUGU
si-C/EBPβ-3	Sense: CACCCUGCGGAACUUGUUCAA
	Antisense: UUGAACAAGUUCCGCAGGGUG
si-c-Myc-1	Sense: CCUGAGACAGAUCAGCAACAA

	Antisense: UUGUUGCUGAUCUGUCUCAGG
si-c-Myc-2	Sense: CAGUUGAAACACAAACUUGAA
	Antisense: UUCAAGUUUGUGUUUCAACUG
siHsp90α-2	Sense: AAUAUCGUCGGGAUUUCUGGU
	Antisense: CAGAAAUCCCGACGAUAUUA
si-MAMDC2-AS1-235	Sense: GCAUUCCUCGUUUGAAUAA
	Antisense: UUAUUCAAACGAGGAAUGC
si-MAMDC2-AS1-2	Sense: GCGCGCGUACGAAAAACAAUUACGG
	Antisense: CCGUAAUUGUUUUUCGUACGCGCGC
Negative Control (N.C.)	Sense: UUCUCCGAACGUGUCACGUTT
	Antisense: ACGUGACACGUUCGGAGAATT

5

6 **Table S3. List of primers used in our qRT-PCR experiment.**

Gene	Primers (forward)	Primers (reverse)
α0	CCCACTATCAGGTACACCAGCTT	CTGCGCTGCGACACCTT
α4	CGACACGGATCCACGACCC	GATCCCCCTCCCGCGCTTCGTCCG
U_L23	ACGATGATGATGAGGTTCCC	CAGCTCCTCTAGGAACAGCG
U_L29	ATGAACAGCTGCAACGGGTA	GTCGTTACCGAGGGCTTCAA
HSP90α	AGTCTGGGACCAAAGCGTTC	ACTGTGAATGATCCCCCTGC
LMNA	CTTCTGCCTCCAGTGTCACG	CCCATCTCTTGTATGATGCTGC
GAPDH	CACCATCTTCCAGGAGCGAG	AGAGGGGGCAGAGATGATGA
U6	CTCGCTTCGGCAGCACA	AACGCTTCACGAATTTGCGT
U_L47	ACGATGATGATGAGGTTCCC	CAGCTCCTCTAGGAACAGCG
MAMDC2	CACTACTGGGGTAGGCTACTA	AGCCAGGAAATGCTCTGTTCA
M2-AS1	TTGCTTATAGCCCACCCACG	TTTGTGGCCCTCCCATTTCA
IFITM1	ACTAGTAGCCGCCCATAGCC	GCACGTGCACTTTATTGAATG
IFITM2	ATGTGGTCTGGTCCCTGTTC	CATGAAGATGCCCAAAATCA
ISG15	AGTGTCCCAGAGTTCATTTTTG	GTCGCCCAGGCTGATCTC

ISG56	ACCACAGAGAAAAAGCAGGACC	ACCATTTGTACACATCTCCACTGT
TNFα	CCCCAGGGACCTCTCTCTAA	CAGCTTGAGGGTTTGCTACA
YY1	AAGCCCTTTCAGTGCACGTT	TCTCCGGTATGGATTCGCAC
c-Myc	TCCCTCCACTCGGAAGGACTA	GCTGGTGCATTTTCGGTTGT
c/EBPβ	TTTGTCCAAACCAACCGCAC	GCATCAACTTCGAAACCGGC
STAT4	AGTAGGAGGAGGCTAGGTCAG	GGATGGGTAGCCAGGATCAA

Supplementary figure legends.

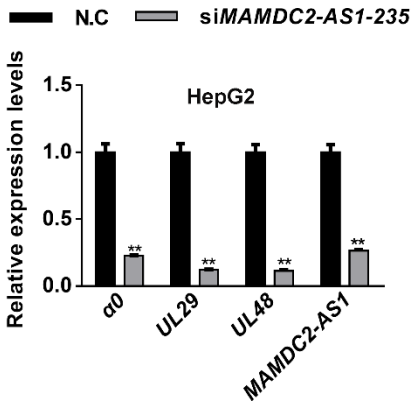

Figure S1. MAMDC2-AS1 knockdown reduces the expression of HSV-1 genes in HepG2 cells. HepG2 cells transfected with MAMDC2-AS1-targeting siRNA (siMAMDC2-AS1) or with a N.C. siRNA (100 nM), and then infected with HSV-1 (MOI 3) for 10 h. Total RNA was extracted to analyze the level of indicated genes by qRT-PCR.

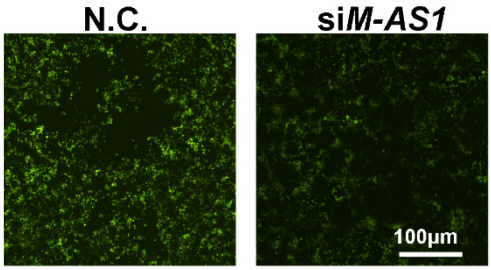

Figure S2. MAMDC2-AS1 knockdown reduces the fluorescence intensity of EGFP-HSV-1 infected HeLa cells. HeLa cells transfected with MAMDC2-AS1-targeting or with a N.C. siRNA (100 nM) for 24 h were infected with EGFP-HSV-1 (MOI 1) for another 24 h. The cells were observed with fluorescence microscope.

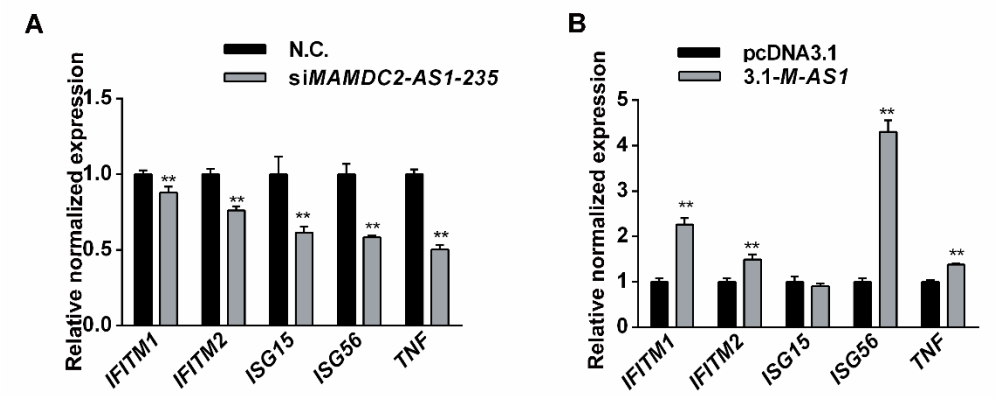

Figure S3. (A) MAMDC2-AS1 knockdown reduced the expression of antiviral response factors. HeLa cells were transfected with MAMDC2-AS1 siRNA or with a N.C. siRNA (100 nM) for 24 h and then infected with HSV-1 (MOI 3) for 4h; subsequently, total RNA was extracted for analyzing the level of the indicated genes by qRT-PCR. (B) Increased expression of antiviral response genes in the context of MAMDC2-AS1 overexpression. HeLa cells were transfected with pcDNA3.1-MAMDC2-AS1 or empty vector pcDNA3.1 plasmid (1.5 μg) for 24 h and infected with HSV-1 (MOI 3) for 4 h, after which total RNA was extracted and subjected to qRT-PCR analysis for determining the relative level of the indicated genes.

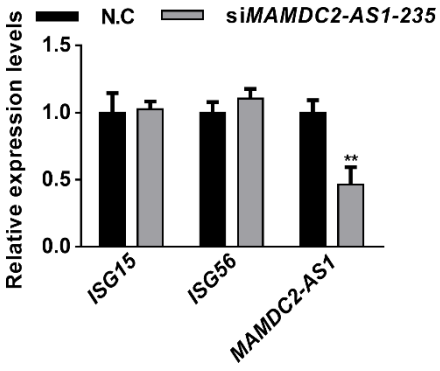

Figure S4. MAMDC2-AS1 knockdown is failed to affect the level of interferon stimulated genes upon LPS stimulation. HeLa cells were transfected with MAMDC2-AS1 siRNA (100 nM) or with a N.C. siRNA (100 nM) for 24 h and then stimulated with LPS (100 ng/mL) for 3 h. Subsequently, total RNA was extracted for analyzing the level of the indicated genes by qRT-PCR.

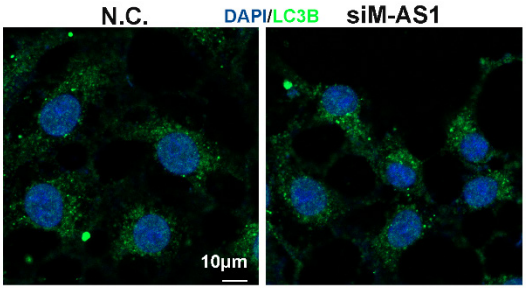

Figure S5. MAMDC2-AS1 knockdown is failed to affect autophagy. HeLa cells were transfected with MAMDC2-AS1-targeting siRNA (100 nM) or with a N.C. siRNA (100 nM) for 24 h and then infected with HSV-1 (MOI 3) for 4h, after which the cells were fixed and LC3B and nuclei were labeled with LC3B-specific antibody (green) and DAPI (blue), respectively.

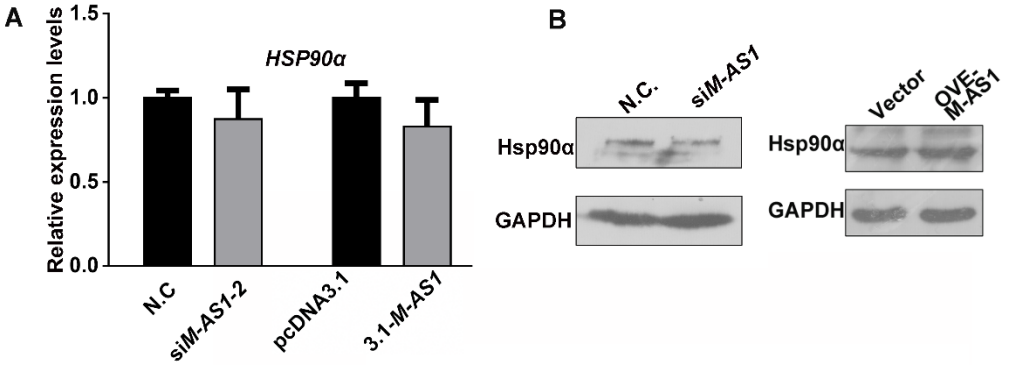

Figure S6. (A) The samples from Figure 6.A were collected to extract total RNA for qRT-PCR analysis of the relative RNA levels of Hsp90α. (B) The samples from Figure 6A were collected to obtain total-protein then subjected to analyze with western blotting to detect the levels of Hsp90α.

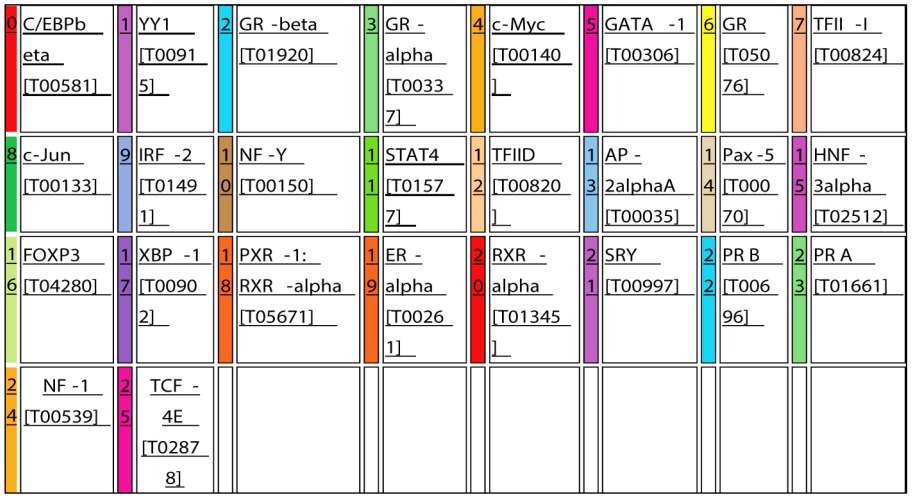

Figure S7. Potential transcription factors by using a prediction database

(http://alggen.lsi.upc.es/cgi-bin/promo_v3/promo/promoinit.cgi?dirDB=TF_8.3) for analyzing the promoter sequences of MAMDC2-AS1 (ranging from 2,000 bp upstream to the start site), which were obtained from the UCSC database.

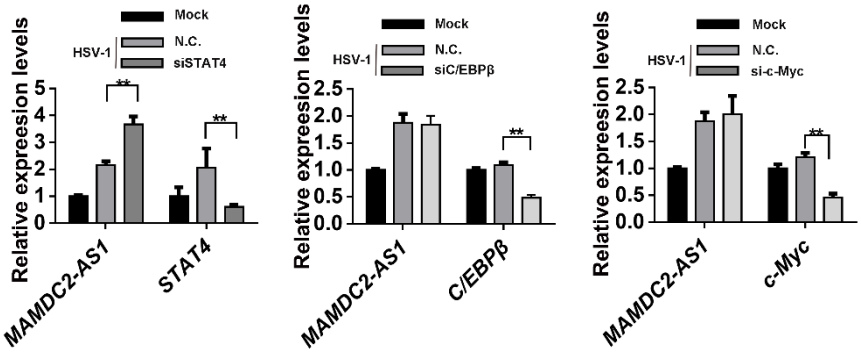

Figure S8. HeLa cells were transfected with siRNAs (100 nM) or with a N.C. siRNA (100 nM) targeting the indicated transcription factors for 48 h and then infected with HSV-1 (MOI 3) for 3 h, after which qRT-PCR was performed to measure the level of MAMDC2-AS1.

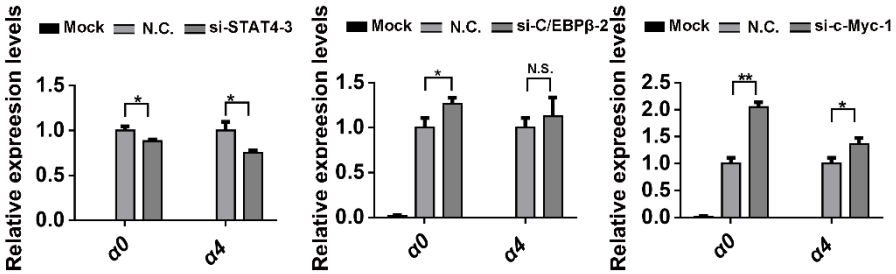

Figure S9. HeLa cells were transfected with siRNAs (100 nM) or with a N.C. siRNA (100 nM) targeting the indicated transcription factors for 48 h and then infected with HSV-1 (MOI 3) for 3 h, after which qRT-PCR was performed to measure the expression of viral indicated genes.

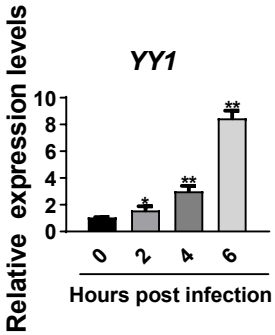

Figure S10. HeLa cells were infected with HSV-1 (MOI 3) for the indicated durations, and total-RNA were extracted to analyze the mRNA expression of YY1 with qRT-PCR.