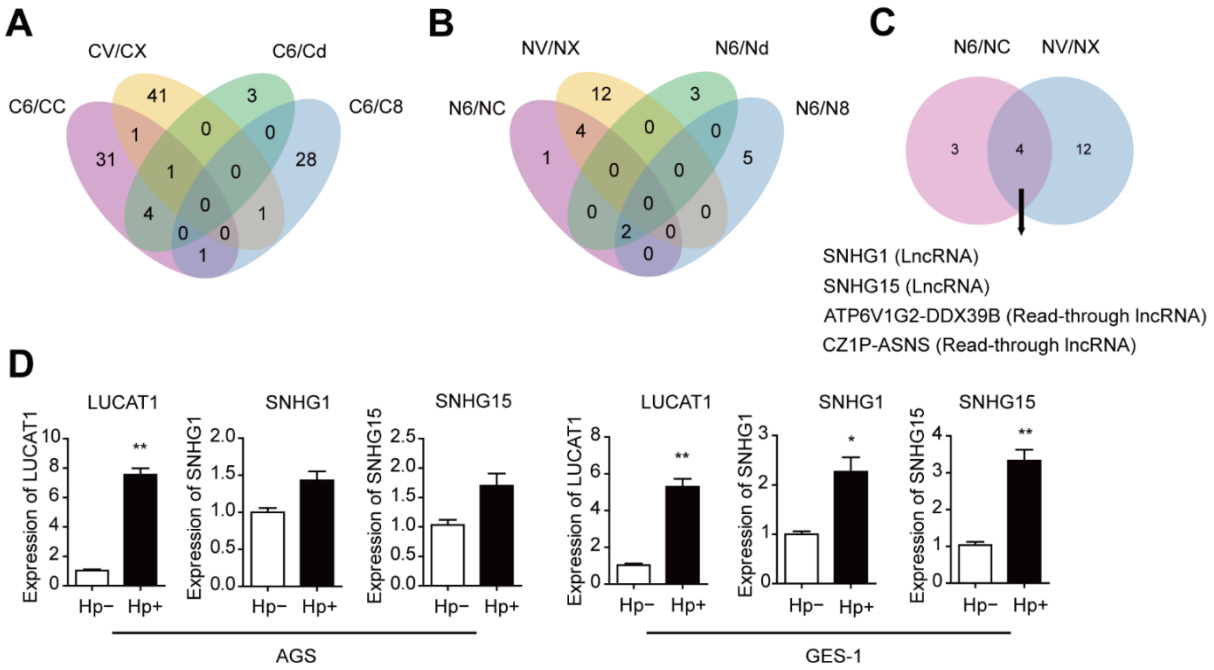

Figure S1. RNA-seq analysis and subsequent validation. (A) The Venn diagram shows overlapping lncRNAs of significantly differentially expressed lncRNAs (DELncRNAs) with [log2(FC)] > 2 and *P*-value < 0.05 following infection of each strain *H. pylori* or transfection of CagA expression vector in AGS cells (CC). **(B-C)** The Venn diagram shows overlapping lncRNAs of significantly differentially expressed lncRNAs (DELncRNAs) with [log2(FC)] > 2 and *P*-value < 0.05 following infection of each strain *H. pylori* or transfection of CagA expression vector in GES-1 normal gastric epithelial cells (NC). **(D)** LUCAT1, SNHG1, and SNHG15 expression were analyzed using qRT-PCR after infection of CagA-positive *H. pylori* 60190 at 100 MOI for 6 h in AGS and GES-1 cells. Hp− ; control, Hp+ ; CagA-positive *H. pylori* 60190 infection. All of the data are from three independent experiments. Data represented the mean ± s.e.m. n = 3, t test, **P* < 0.05, ***P* < 0.01, ****P* < 0.001 versus con group.

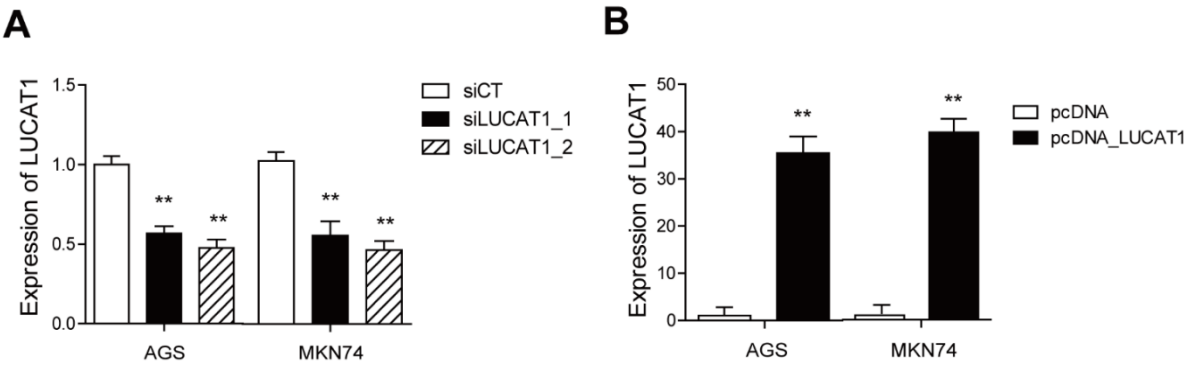

Figure S2. LUCAT1 expression in GC cells transfected with siLUCAT1s and pcDNA_LUCAT1. (A) LUCAT1 expression in AGS and MKN74 cells transfected with a siControl or siLUCAT1s was measured by qRT-PCR. **(B)** LUCAT1 expression in AGS and MKN74 cells transfected with a pcDNA or pcDNA_LUCAT1 was measured by qRT-PCR. All of the data are from three independent experiments. Data represented the mean ± s.e.m. *n* = 3, t test, **P* < 0.05, ***P* < 0.01, ****P* < 0.001 versus con group.

Supplementary Table 1. Primer sequences for qRT-PCR

Gene	Direction	Sequence (5' to 3')
LUCAT1	Forward	5'- GCTCGGATTGCCTTAGACAG -3'
	Reverse	5'- GGGTGAGCTTCTTGTGAGGA -3'
MIF	Forward	5'- TCCGAGAAGTCAGGCACGTAG -3'
	Reverse	5'- TGCACCGCGATGTACTGG -3'
CagA	Forward	5'- TGATGAGGCAAATCAAGCAG -3'
	Reverse	5'- ATTCACGAGCTTGAGCCACT-3'
iNOS	Forward	5'- CACCATCCTGGTGGAACTCT-3'
	Reverse	5'- TCCAGGATACCTTGGACCAG-3'
IL-1β	Forward	5'- GGGCCTCAAGGAAAAGAATC-3'
	Reverse	5'- AAGTGGTAGCAGGAGGCTGA-3'
TNF-α	Forward	5'-TGGCCAATGGCGTGGAGCTG -3'
	Reverse	5'-GTAGGAGACGGCGATGCGGC-3'
Arginase-1	Forward	5'- ACTTAAAGAACAAGAGTGTGATGTG -3'
	Reverse	5'- CATGGCCAGAGATGCTTCCA -3'
IL-10	Forward	5'-AAGCCTGACCACGCTTTCTA -3'
	Reverse	5'-GCTCCCTGGTTTCTCTTCCT -3'
TGF-β	Forward	5'-GACTGCGGATCTCTGTGTCA -3'
	Reverse	5'-GGGCAAAGGAATAGTGCAGA -3'
U6	Forward	5'-CTCGCTTCGGCAGCACA-3'
	Reverse	5'-AACGCTTCAGGAATTTGCGT-3'
GAPDH	Forward	5'-CCGGGAAACTGTGGCGTGATGG-3'
	Reverse	5'-AGGTGGAGGAGTGGGTGTCGCTGTT-3'

Supplementary Table 2. siRNAs targeting lncRNA LUCAT1 and mRNA MIF

Gene	Direction	Sequence (5' to 3')
Si LUCAT1_1	Sense	5'- CAGAAGAUGUCAGAAGAUAAGGAUU -3'
	Antisense	5'- AAUCCUUAUCUUCUGACAUCUUCUG -3'
Si LUCAT1_2	Sense	5'- GCACAGAUAAAUUUCUCUUACUGUA -3'
	Antisense	5'- UACAGUAAGAGAAAUUUAUCUGUGC -3'
Si MIF	Sense	5'- CCGAUGUUCAUCGUAAACATT -3'
	Antisense	5'- UGUUUACGAUGAACAUCGGTT -3'

Supplementary Table 3. Primer sequences for ChIP-qPCR

Gene	Direction	Sequence (5' to 3')
Primer 1	Forward	5'- GGTGTACCCAGATGCTCCAT -3'
	Reverse	5'- CTCCGTGGTAGGCAGATGAC -3'
Primer 2	Forward	5'- AAAGAGACTGTCCCCACTGG -3'
	Reverse	5'- CCTTCAGTTCTTGGCTCAGC -3'
Primer 3	Forward	5'- CAGGGCCTTGTGACAGTACT -3'
	Reverse	5'- CATCTCCTTGTACCCTCCCC -3'
Primer 4	Forward	5'- AACTTGAGAGGGGCTTCTGG -3'
	Reverse	5'- ACCAGAGACATTCCATCCCC -3'
Primer 5	Forward	5'- GCTGGATTTAGGC GGCTTTT -3'
	Reverse	5'- GTCCCTGTGAACCTGAATG -3'
Primer 6	Forward	5'- GCTCAGCTTTCATAGGGCAC-3'
	Reverse	5'- CACCTCATCACCTGCCAGTA -3'
Primer 7	Forward	5'- GGGCACAGGTAAGAGAAGGT -3'
	Reverse	5'- TACCAGTCTCAGTGAAGGCC -3'
Primer 8	Forward	5'- AAATCTCTGAGGACCTGGCC -3'
	Reverse	5'- CACCGTGTATGGCCTCTCAT -3'
Primer 9	Forward	5'- GGAAGTTCCCTGGATGGTGA-3'
	Reverse	5'- AAGATGGCCCTTACCCTTC-3'
Primer 10	Forward	5'- TAAGAAAGACCCGAGGCGAG -3'
	Reverse	5'- GTCCCGCCTTTTGTGACG -3'

Figure S3

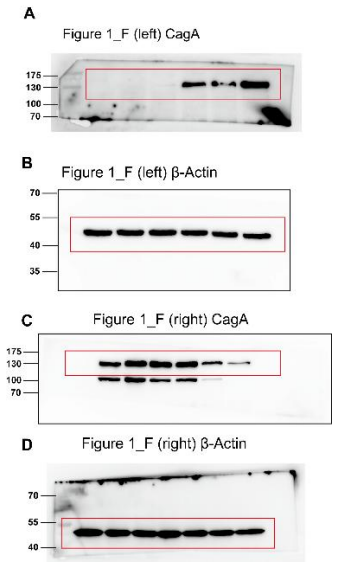

Figure S3. Full-length (uncropped) western blot images corresponding to cropped blots in Figure 1. (A-D) Full-length western blot for CagA and β-actin in AGS cells after *H. pylori* infection. Membranes were cut and probed with different antibodies as indicated; dividing lines indicate boundaries between noncontiguous sections used in the main Figure 1. Molecular weight markers are indicated. Cropped regions used in the main figure are highlighted with red boxes.

Figure S4

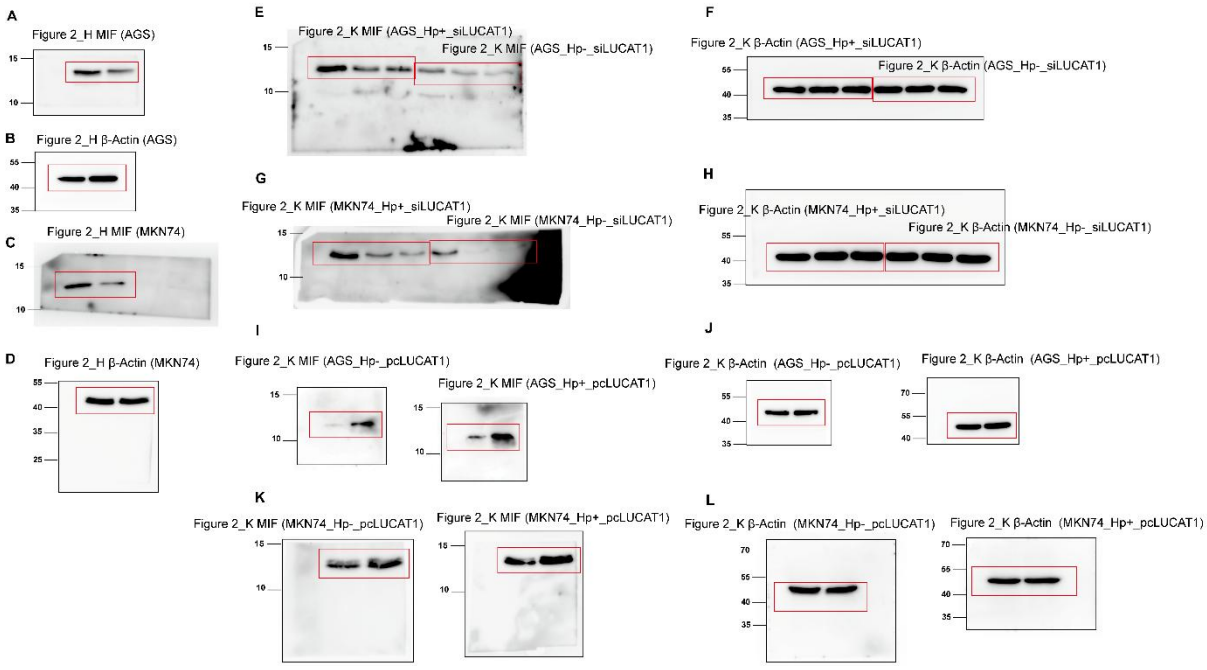

Figure S4. Full-length (uncropped) western blot images corresponding to cropped blots in Figure 2. (A-D) Full-length western blot for MIF and β-actin in AGS and MKN74 cells transfected with either siControl or siMIF. **(E-H)** Full-length western blot for MIF and β-actin under infection or non-infection with *H. pylori* 60190 at 100 MOI for 6 h in AGS and MKN74 cells transfected with either siControl or siLUCAT1s. **(I-L)** Full-length western blot for MIF and β-actin under infection or non-infection with *H. pylori* 60190 at 100 MOI for 6 h in AGS and MKN74 cells transfected with either pcDNA or pcDNA_LUCAT1. Membranes were cut and probed

with different antibodies as indicated; dividing lines indicate boundaries between noncontiguous sections used in the main Figure 2. Molecular weight markers are indicated. Cropped regions used in the main figure are highlighted with red boxes.

Figure S5

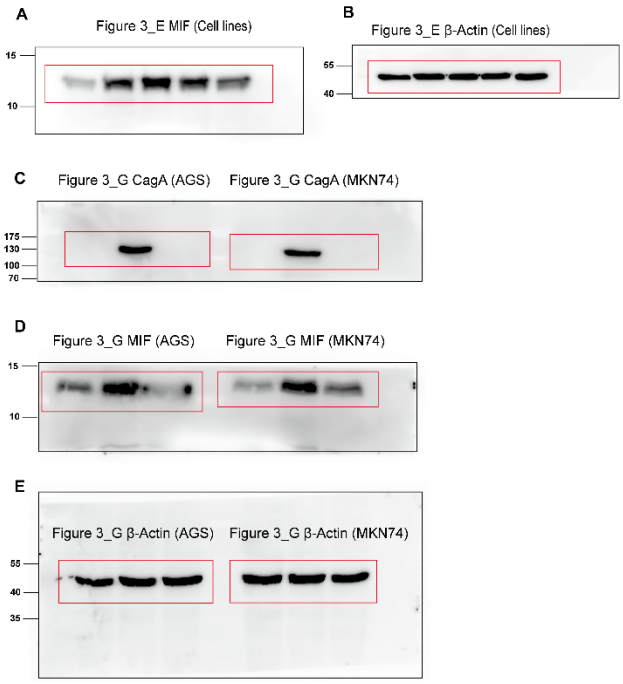

Figure S5. Full-length (uncropped) western blot images corresponding to cropped blots in Figure 3. (A-B) Full-length western blot for MIF and β-actin in GC cell lines (AGS, MKN74, KATO III, and SNU719) and normal gastric epithelial cells (GES-1). **(C-E)** Full-length western blot for CagA, MIF, and β-actin in AGS and MKN74 cells after infection of CagA-positive *H. pylori* 60190 or ΔCagA. Membranes were cut and probed with different antibodies as indicated; dividing lines indicate boundaries between noncontiguous sections used in the main Figure 3. Molecular weight markers are indicated. Cropped regions used in the main figure are highlighted with red boxes.

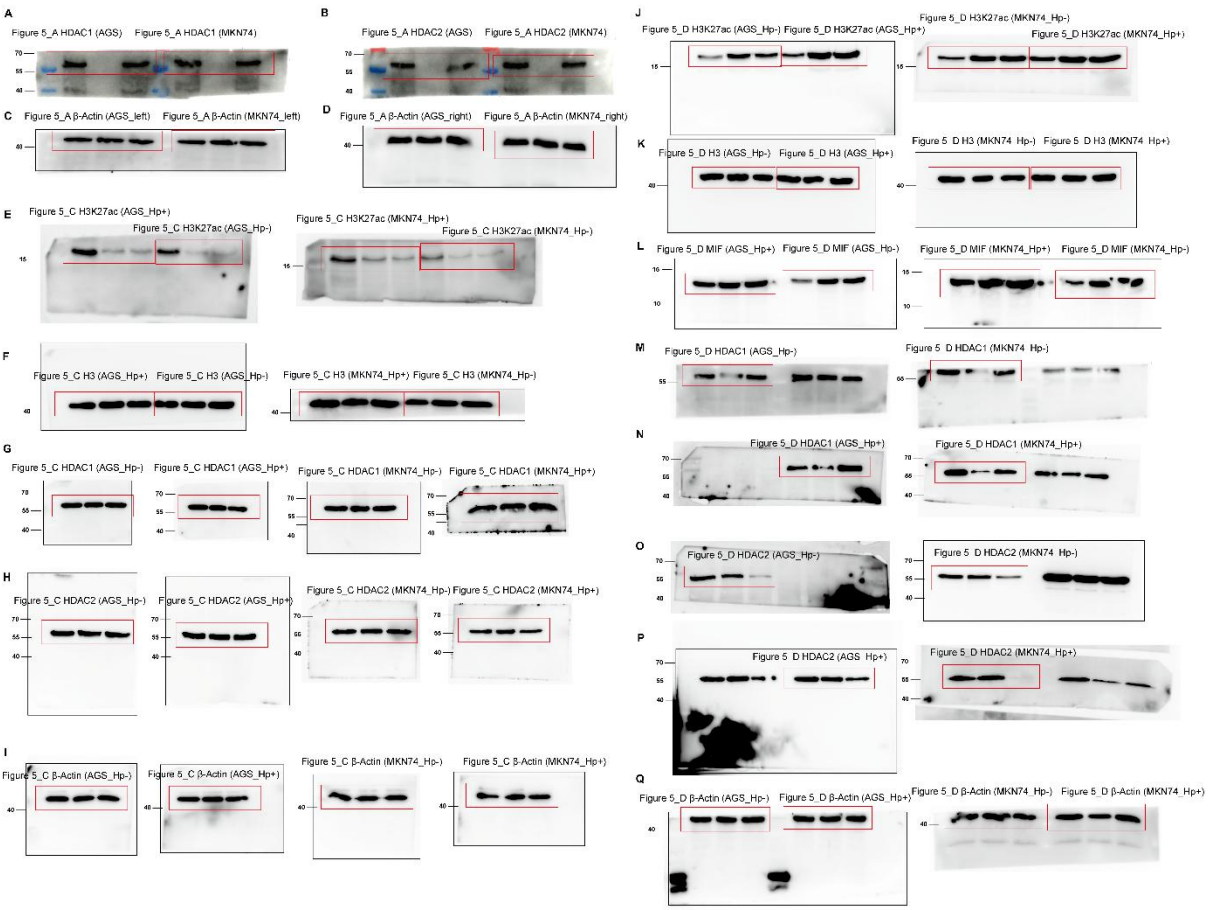

Figure S6. Full-length (uncropped) western blot images corresponding to cropped blots in Figure 5. (A-D) Full-length western blot for HDAC1, HDAC2, and β-actin in AGS and MKN74 cells to detect the binding of LUCAT1 and HDAC1/2. **(E-I)** Full-length western blot for H3K27ac, H3, HDAC1, HDAC2, and β-actin in *H. pylori* 60190 infected or uninfected AGS and MKN74 cells transfected with either siControl or siLUCAT1s. **(J-Q)** Full-length western blot for H3K27ac, H3, MIF, HDAC1, HDAC2 and β-actin in *H. pylori* 60190 infected or uninfected AGS and MKN74 cells transfected with either siControl or siHDAC1/2. Membranes were cut and probed with different antibodies as indicated; dividing lines indicate boundaries between noncontiguous sections used in the main Figure 5. Molecular weight markers are indicated. Cropped regions used in the main figure are highlighted with red boxes.

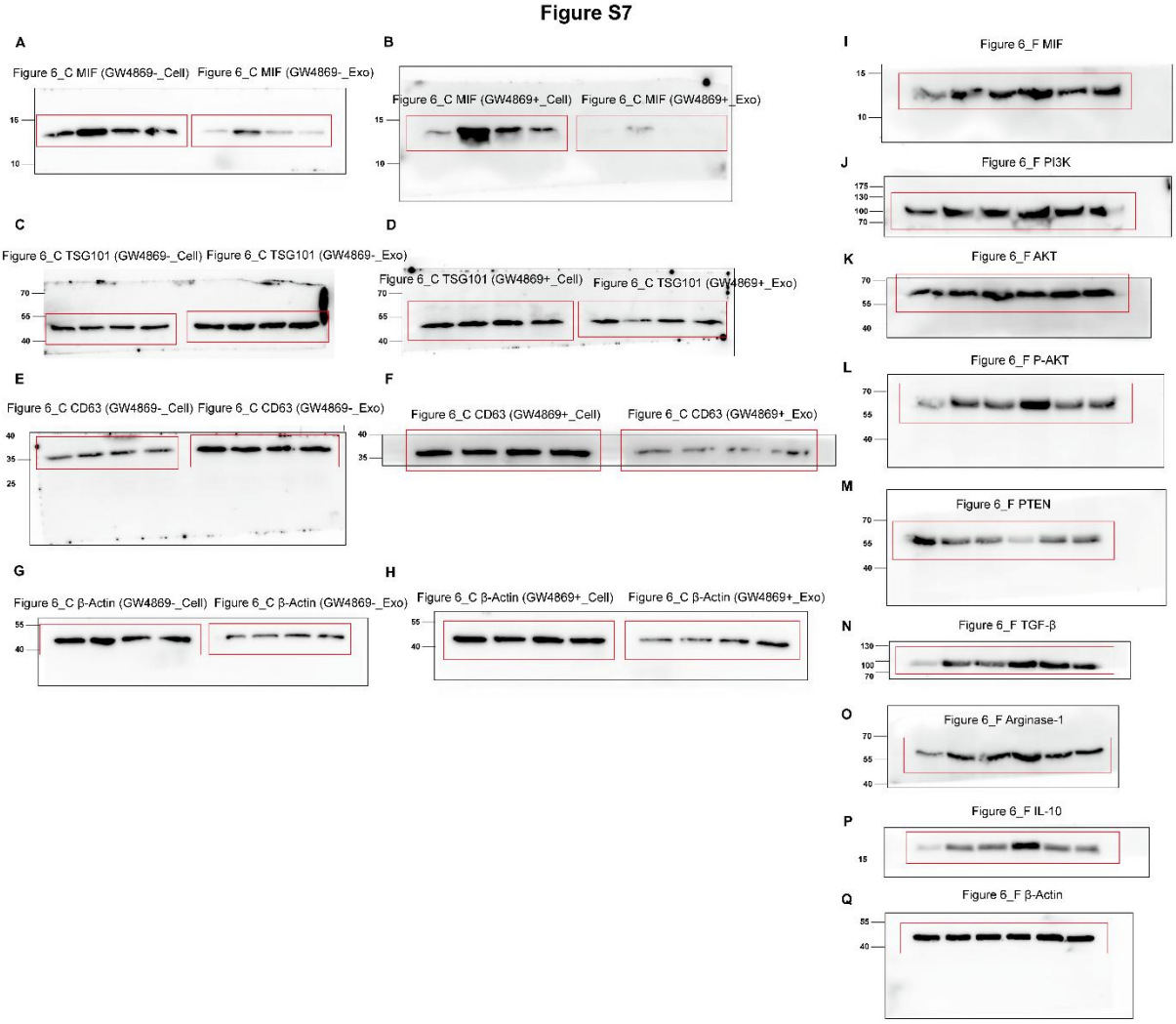

Figure S7. Full-length (uncropped) western blot images corresponding to cropped blots in Figure 6. (A-H) Full-length western blot for the exosomal MIF and exosomal surface markers TSG101, CD63 and β-actin expression in AGS cells treated with or without 10 μM GW4869 for 24 h, an inhibitor of exosome secretion. **(I-Q)** Full-length western blot for MIF, PI3K, AKT, p-AKT, PTEN, and M2 marker (TGF-β, Arginase-1, and IL-10) and β-actin in THP-1 macrophages incubated with or without each group of GC cell-derived exosomes. Membranes were cut and probed with different antibodies as indicated; dividing lines indicate boundaries between noncontiguous sections used in the main Figure 6. Molecular weight markers are indicated. Cropped regions used in the main figure are highlighted with red boxes.