Supplementary Table 1. DNA sequence of PCR primers

Gene	Forward primer (5’ to 3’)	Reverse primer (5’ to 3’)
LXRα	TGAGAGTATCACCTTCCTCA	AGAAGATGCTGATAGCAATG
LXRβ	AACTAATGATCCAGCAGTTG	ATCTCCTGGACTGAGATGAT
ABCA1	ATCATTGGCCCTCATTCCA	CTGTCACAGCTTTATTTTGTGACTC
ABCG1	GCCTGAAGGCCTACTACCTG	AGGAGATGTAGGACATCCACTG
SREBP1c	CCATGGATTGCACTTTCGAA	CCAGCATAGGGTGGGTCAAA
FAS	GCCTACACCCAGAGCTACCG	GCCATGGTACTTGGCCTTG
GAPDH	TGCACCACCAACTGCTTAG	GGATGCAGGGATGATGTTC
Cyclin A	CCTTAGGGAAATGGAGGTTAAA	CCAAATGCAGGGTCTCATTC
Cyclin A1	TTCCTGCTGGATTTCAACACA	CAACCTCCACCAGCCAGTC
Cyclin B1	GGTGAATGGACACCAACTCT	TGTTCTTGACAGTCATGTGCTTTG
Cyclin D1	TTCCTCTCCAAAATGCCAGA	CAGTCCGGGTCACACTTGAT
Cyclin E	TCAGTGGTGCGACATAGAGAA	TGTCCAGCAAATCCAAGCTG
CDC25A	CCCTGAGCTGTATGTCCTGAA	GCTCTTGGTGCGGAACTTCT
p15	GCATATGTTATTGGGGAAAGGA	GGTGCAATGGGAAGAAAAGC
p21	AGGGGAAGGGACACACAAGA	GATGAGGAAGGTCGCTGGAC
p27	AGGAGAGCCAGGATGTCAGC	GGGGAACCGTCTGAAACATT
p53	TCACAGCACATGACGGAGGT	TGGAGTCTTCCAGTGTGATGATG
MDM2	CGACAAAGAAAACGCCACAA	CGATGGCGTCCCTGTAGATT
GADD45α	GCTGCGAGAACGACATCAAC	GACTTTCCCGGCAAAAACAA
MYC	CACCACCAGCAGCGACTCT	GGCACCTCTTGAGGACCAGT

Supplementary Table 2. DNA sequence of siRNA oligos

Gene	Sense sequences	Antisense sequences
hSREBP1_2394	CCACCGUUUCUUCGUGGAU	AUCCACGAAGAAACGGUGG
hSREBP1_3478	GACUGUCAGCAGAUGCUCA	UGAGCAUCUGCUGACAGUC
hSREBP1_2493	GACUCAGCUAUUCCGGGAA	UUCCCGGAAUAGCUGAGUC
hFAS_6124	GAGCGUAUCUGUGAGAAAC	AAGUUUCUCACAGAUACGCUC
hFAS_6089	GACAGAGCAACUACGGCUU	AAGCCGUAGUUGCGCUGUC
hFAS_6428	UCAACCUGGACAGCUCACU	AGUGAGCUGUCCAGGUUGA
hLXRα_934	GAGACAUCUCGGAGGUACA	UGUACCUCCGAGAUGUCUC
hLXRα_542	CAGAAGAACAGAUCCGCCU	AGGCGGAUCUGUUCUUCUG
hLXRβ_508	CGAGCUUUGCCGUGUCUGU	ACAGACACGGCAAAGCUCG
hLXRβ_1176	CCACUAUCGAGAUCAUGCU	AGCAUGAUCUCGAUAGUGG

Supplementary Figure Legends:

Supple. Fig. 1. LXR activation dose-dependently represses the proliferation of RWPE1 cells. RWPE1 cells were incubated with LXR ligand, (A) T0901317 and (B) GW3965 for 2 days and microscopic images were taken.

Supple. Fig. 2. GW3965 suppress the proliferation via G1 arrest in LNCaP cells. GW3965 was treated to LNCaP cells for 2 days and relative cell number was monitored with (A) microscopic image and (B) CCK-8 assay. (C) Percentage of the cells on each phase was calculated with FACS analysis.

Supple. Fig. 3. Effect of SREBP1 and FAS knockdown on activated LXR-induced cell cycle arrest. (A) RWPE1 cells were transfected with siRNA for control, SREBP1#1 (hSREBP1_2394), SREBP1#2 (hSREBP1_3478), SREBP1#3 (hSREBP1_2493) and FAS#1 (hFAS_6124), FAS#2 (hFAS_6089), FAS#3 (hFAS_6428) and treated with T0901317 (T; 1 μM) for 18 hr. Then, total RNA was isolated and target gene expression was analyzed by real-time quantitative PCR. (B) Transfected RWPE1 cells were incubated with 3 μM of T0901317. After 2 days incubation, microscopic images were taken. (C) Transfected RWPE1 cells with each

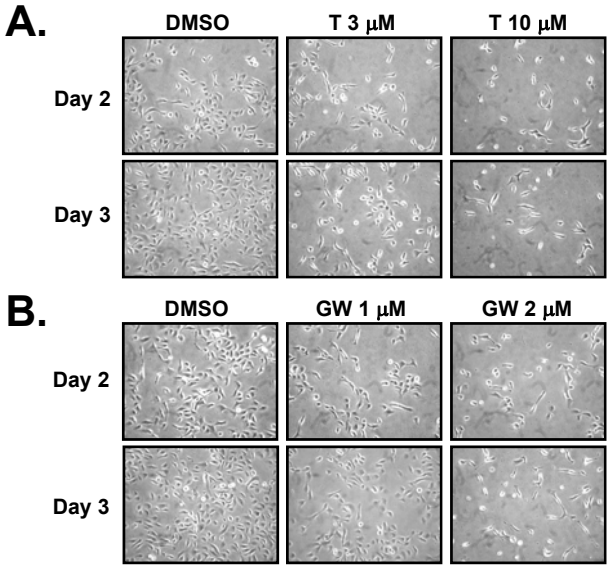
siRNA were incubated with 3 μM of T0901317 for 2 days and Oil-red O staining was carried out.

Supple. Fig. 4. Expression level of LXRα and LXRβ in various cell lines. Total RNA was isolated from various cell lines such as RWPE1, THP1, SNU16, LNCaP, HepG2, PC3, HEK293, and HeLa cells. After synthesizing cDNA from total RNA, relative expression level of LXR α and β was analyzed by real-time quantitative PCR. Each value was normalized with GAPDH.

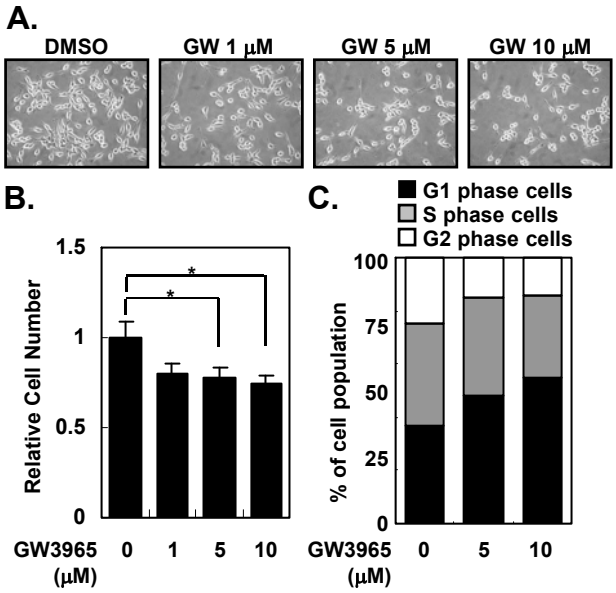
Supple. Fig. 5. Knockdown of LXRα and LXRβ on activated LXR-induced cell cycle arrest. (A) RWPE1 cells were transfected with control or LXRα/β siRNA (hLXRα_934, hLXRα_542, hLXRβ_508, and hLXRβ_1176). After incubation with T0901317 (1 μM) for 18 hr, LXRα/β and target gene expressions were analyzed by real-time quantitative PCR. The representative result was shown in the panels from three independent experiments. Transfected RWPE1 cells were incubated with (B and C) 3 μM of T0901317 and (D and E) 1 μM of GW3965 (GW). After 2 days incubation, microscopic images were taken and relative cell numbers were determined by CCK-8 assay. (F) Transfected RWPE1 cells were incubated with T0901317 (T; 3 μM) for 2 days and Oil-red O staining was carried out.

Supple. Fig. 6. Effect of LXR activation on the proliferation of MEF cells. (A) Each MEF cell was incubated with T0901317 for 2 days and relative cell number was determined with CCK-8 assay. (B) MEF cells were treated with T0901317 for 18 hr and target gene expression was evaluated with real-time quantitative PCR.

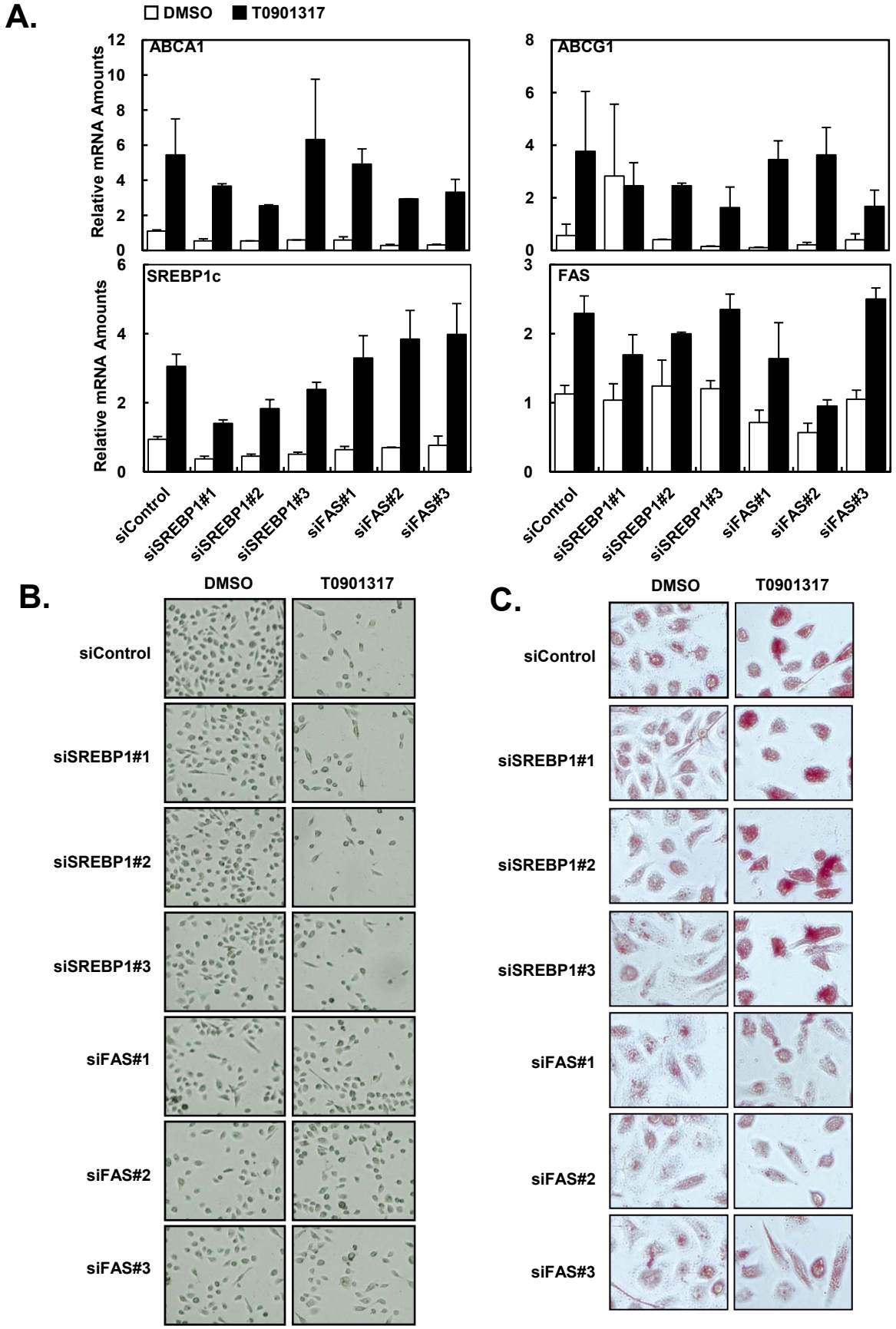
Supple. Fig. 1



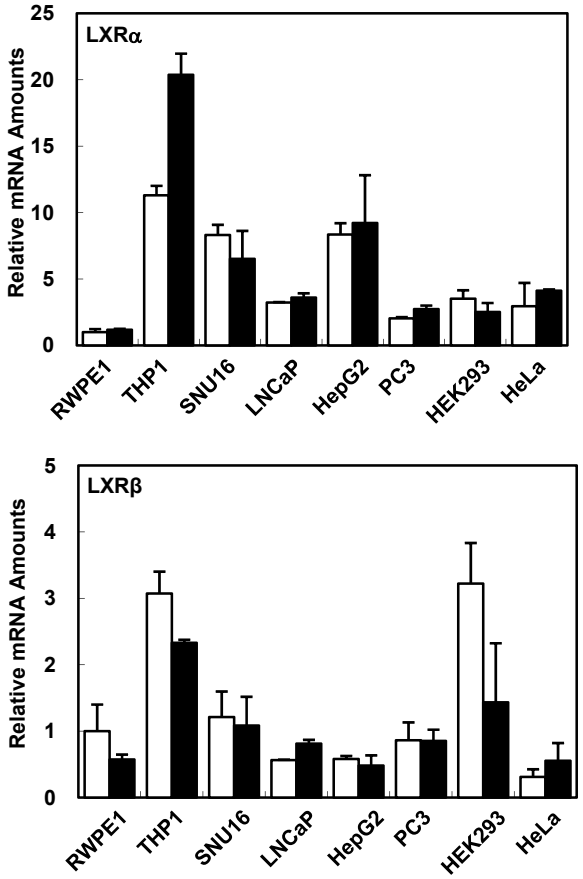
Supple. Fig. 2


A.
DMSO
GW 1 μM
GW 5 μM
GW 10 μM
B.
Relative Cell Number
1.5
1
0.5
0
*
*
GW3965 (μM)
0
1
5
10
C.
G1 phase cells
S phase cells
G2 phase cells
% of cell population
100
75
50
25
0
GW3965 (μM)
0
5
10

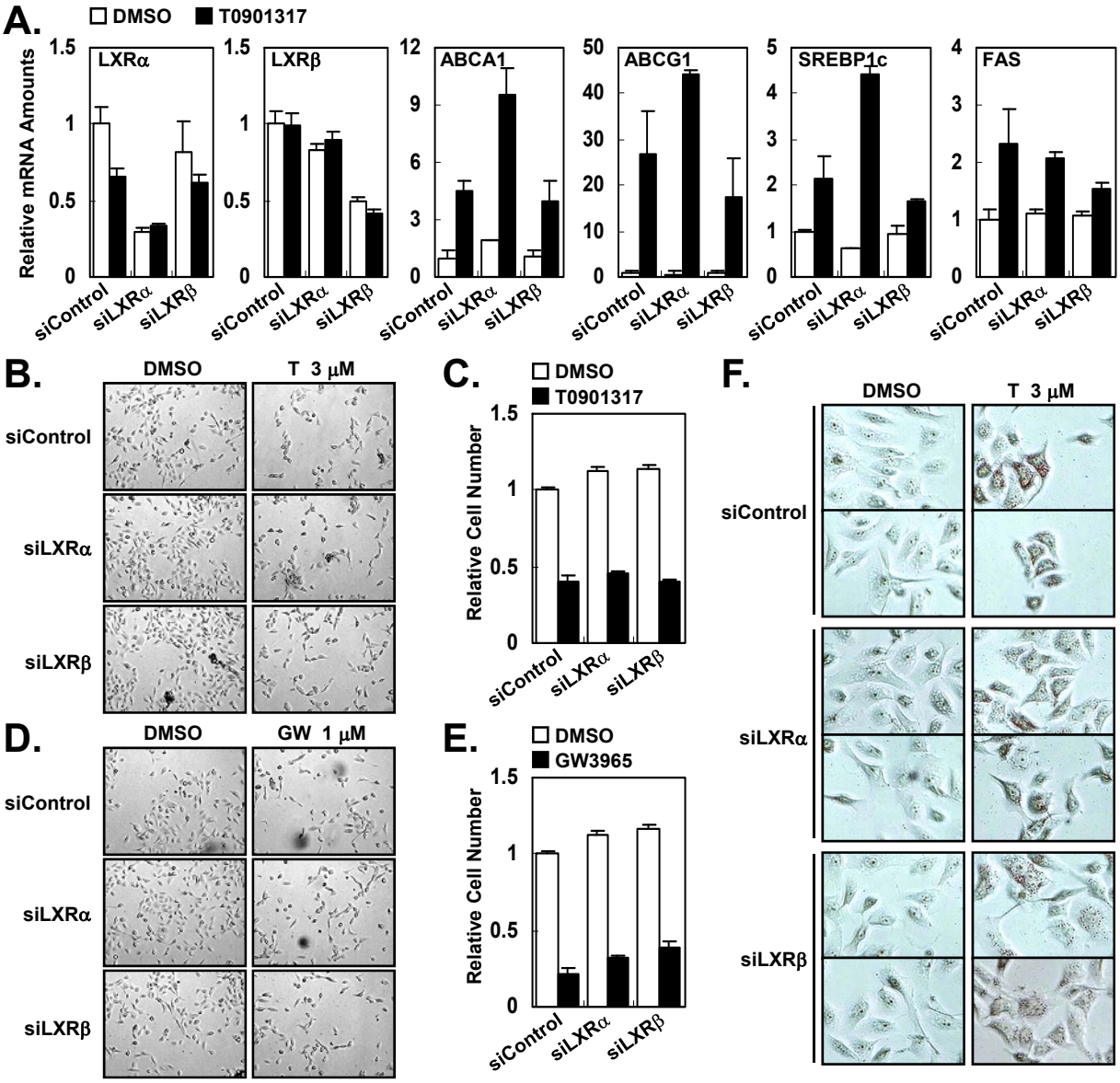
Supple. Fig. 3


A.
DMSO
T0901317
ABCA1
ABCG1
SREBP1c
FAS
Relative mRNA Amounts
siControl
siSREBP1#1
siSREBP1#2
siSREBP1#3
siFAS#1
siFAS#2
siFAS#3
B.
C.

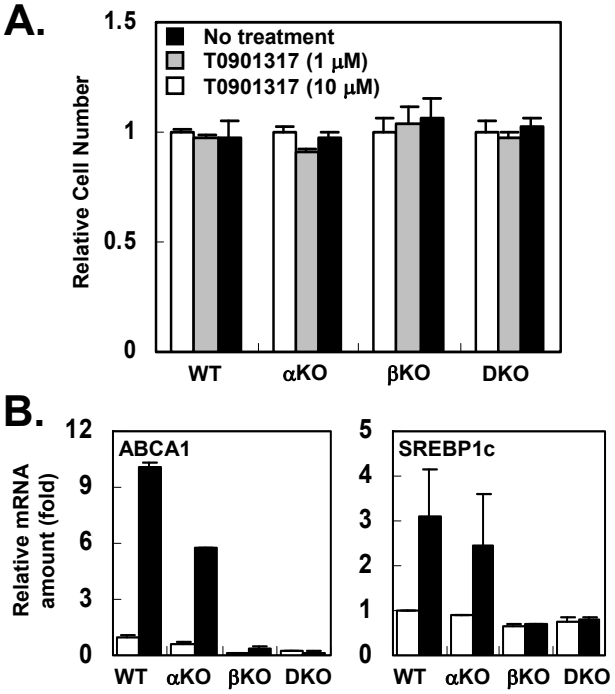
Supple. Fig. 4


LXRα
Relative mRNA Amounts
25
20
15
10
5
0
RWPE1
THP1
SNU16
LNCaP
HepG2
PC3
HEK293
HeLa
LXRβ
Relative mRNA Amounts
5
4
3
2
1
0
RWPE1
THP1
SNU16
LNCaP
HepG2
PC3
HEK293
HeLa

Supple. Fig. 5


A.
DMSO
T0901317
Relative mRNA Amounts
LXRα
LXRβ
ABCA1
ABCG1
SREBP1c
FAS
siControl
siLXRα
siLXRβ
B.
DMSO
T 3 μM
C.
Relative Cell Number
D.
GW 1 μM
E.
GW3965
F.

Supple. Fig. 6


A.
No treatment
T0901317 (1 μM)
T0901317 (10 μM)
Relative Cell Number
1.5
1
0.5
0
WT
αKO
βKO
DKO
B.
ABCA1
SREBP1c
Relative mRNA amount (fold)
12
9
6
3
0
5
4
3
2
1
0
WT
αKO
βKO
DKO