Supplemental Figure Legends

Fig S1. PPARγ expression in WT control and HVDRR cells. Cells were treated with vehicle, DIM or DIMR for 14 days. PPARγ expression was determined by real-time RT-PCR. Vehicle controls were set to 1. * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

Fig S2. NRBF1, CITED1 and CPT1b expression in HVDRR cells. Cells were differentiated with DIMR for 14 days. Expression levels were determined by real-time RT-PCR. Values for WT control cells were set to 1. ** $p<0.01$, *** $p<0.001$.

Fig S3. SMRT is not recruited to UCP1 VDRE4. ChIP analyses of SMRT binding to the UCP1 VDRE4 and osteocalcin (OC) VDRE in WT control cells treated with vehicle (0.1% ethanol) or 10 nM $1,25(OH)_2D_3$ for 6 hrs. * $p<0.05$, *** $p<0.001$.

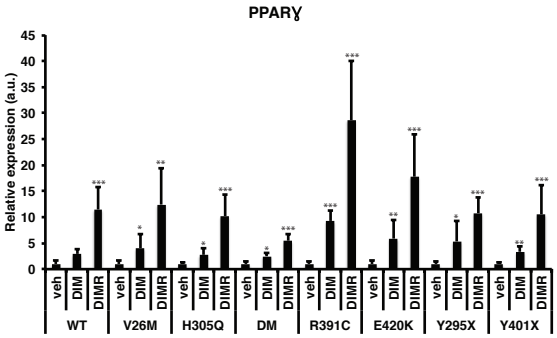
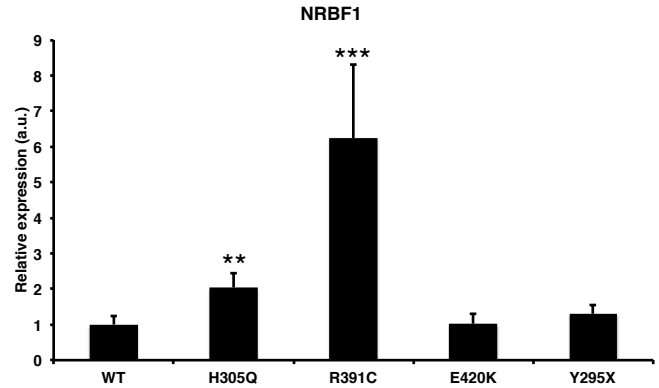
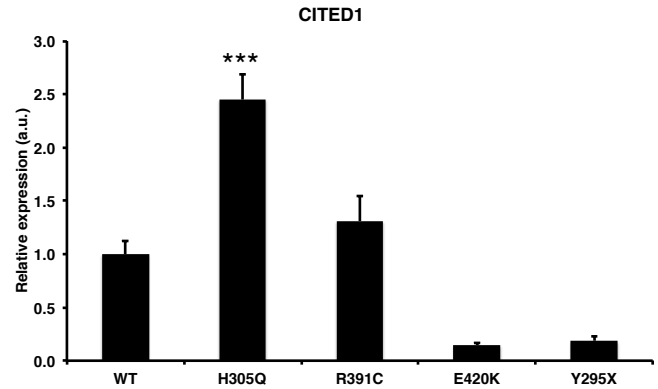
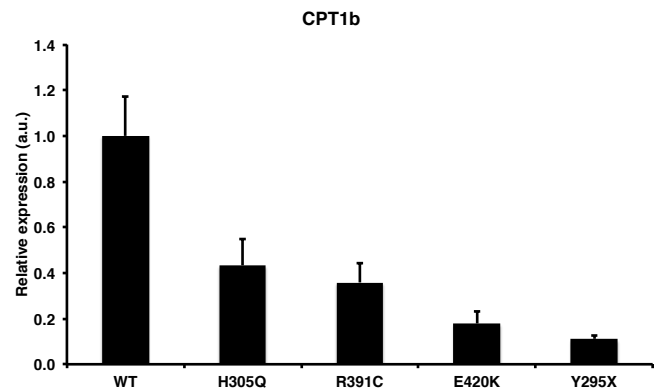

PPARγ
Relative expression (a.u.)
45
40
35
30
25
20
15
10
5
0
veh
DM
DIMR
WT
V26M
H305Q
DM
R391C
E420K
Y295X
Y401X

Fig. S1


NRBF1
Relative expression (a.u.)
9
8
7
6
5
4
3
2
1
0
**
***
WT
H305Q
R391C
E420K
Y295X


CITED1
Relative expression (a.u.)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
***
WT
H305Q
R391C
E420K
Y295X


CPT1b
Relative expression (a.u.)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
WT
H305Q
R391C
E420K
Y295X

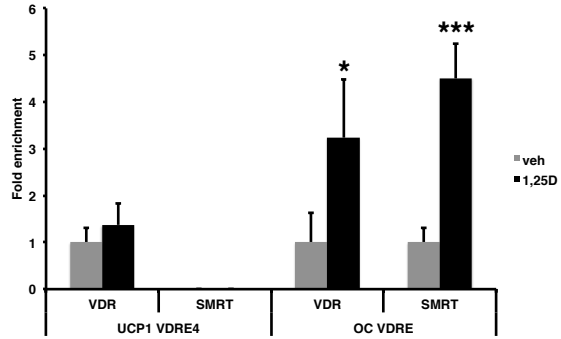

Fold enrichment
6
5
4
3
2
1
0
*
***
VDR
SMRT
VDR
SMRT
UCP1 VDRE4
OC VDRE
veh
1,25D

Fig. S3

Table S1.
QPCR primers

Gene	Upper Primer (5’-3’)	Lower Primer (5’-3’)
CYP24A1	GGCTCTTTGTTGGATTGTCC	AAACCAGCAGTGAACCCTGT
PPARG	GCAGGAGATCTACAAGGACTTG	CCCTCAGAATAGTGCCTGG
FABP4	GGGGTGTCCTGGTACATGTGCA	TCATGACGCATTCCACCACCAGT
UCP1	TCGGACGTACACCCGACCCTG	TTCACCTTGGACCTGGAGCCG
GAPDH	GAAGGTGAAGGTCGGAGTCA	GATCTCGCTCCTGGAAGATG
NRBF1	TCCAGCCAAGGTCGTCGAACTCA	TTGCTGCCCACCGCTACCAC
CPT1b	ATCATGGCGTGGATGATGT	CCTCTCATGGTGAACAGCAA
CITED1	CAACCTTGCGGTGAAAGATCG	GGAGAGCCTATTGGAGATCCC
mUCP1	ACTGCCACACCTCCAGTCATT	CTTTGCCTCACTCAGGATTGG
mRPL19	AAATCGCCAATGCCAACTC	TCTTCCCTATGCCCATATGC

Primers used in cloning UCP1 upstream sequence

Name	Sequence (5’-3’)
hUCP1pro +83-L	CCTTCTCGAGTCCGCCAAGCACGCCGCTATTCC
hUCP1pro-984-L	CCTTCTCGAGCTTGGCTCCAGGTCAGCTC
hUCP1pro-2545-L	CCTTCTCGAGGAGGCTGATGGCTAAGCAGT
hUCP1pro-4218-U	CAGGTACCTAACAGGGTATTTCCCAG

Primers used in deleting and mutating VDREs in UCP1 upstream sequence

Name	Sequence (5’-3’)
hUCP1-delVDRE1	AGTACAGATGACTTTAGCTGGAGAGCTGCACCT
hUCP1-delVDRE1-r	AGGTGCAGCTCTCCAGCTAAAGTCATCTGTACT
hUCP1-delVDRE2	TACAGCCTCATCCCTCTCTCTTTCTTCCCC
hUCP1-delVDRE2-r	GGGGAAGAAAGAGAGAGGGATGAGGCTGTA
hUCP1-delVDRE3	ACCTGTTGATAGCAGAACAAGGAATAAGGTCT
hUCP1-delVDRE3-r	AGACCTTATTCCTTGTTCTGCTATCAACAGGT
hUCP1-delVDRE4	GGATCAGGAATTTAGCTTCTGCTTTACTGA
hUCP1-delVDRE4-r	TCAGTAAAGCAGAAGCTAAATTCCTGATCC
hUCP1-VDRE4-G-C-U	TTAGACTGGGCTCAGCTACGCGATTCTTCTGC
hUCP1-VDRE4-G-C-L	GCAGAAGAATCGCGTAGCTGAGCCCAGTCTAA

ChIP primers

Name	Sequence (5’-3’)
hUCP1-VDRE4-U	TCTCACAATTTTATGGATCAGGAA
hUCP1-VDRE4-L	CACCAGGCACCAGAGTACAG
hCYP24A1-VDRE-U	GCATCGCGATTGTGCAAG
hCYP24A1-VDRE-L	GTGGAAGGAGGATGGAGTCA
hOC-VDRE-U	CCGGCTGACCTCATCTCCTG
hOC-VDRE-L	GCTGAGCTCTAGGGGAGTCT