

SUPPLEMENTARY DATA

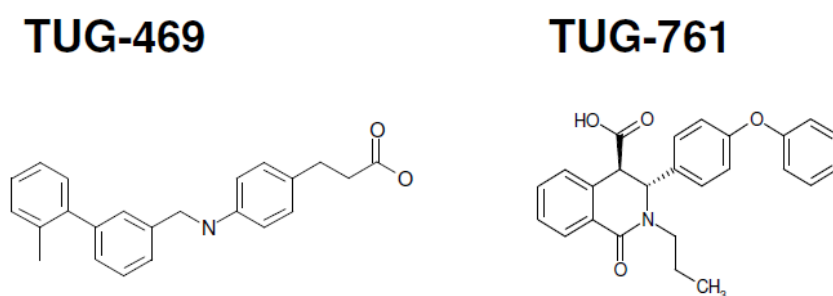
Supplementary Table 1. Minor allele frequency (MAF) and p for Hardy-Weinberg equilibrium (HWE p) of genotyped SNPs. The SNP rs10423648 failed Hardy-Weinberg equilibrium, and therefore was not analyzed in the genotype-phenotype association study.

SNP	MAF	HWE (p)
rs1573611	0.27	0.51
rs387083	0.31	0.08
rs2301151	0.20	0.12
rs12975589	0.46	0.71
rs12462800	0.06	0.93
rs10423648	0.06	0.02*
rs10422744	0.41	0.54
rs417030	0.24	0.70

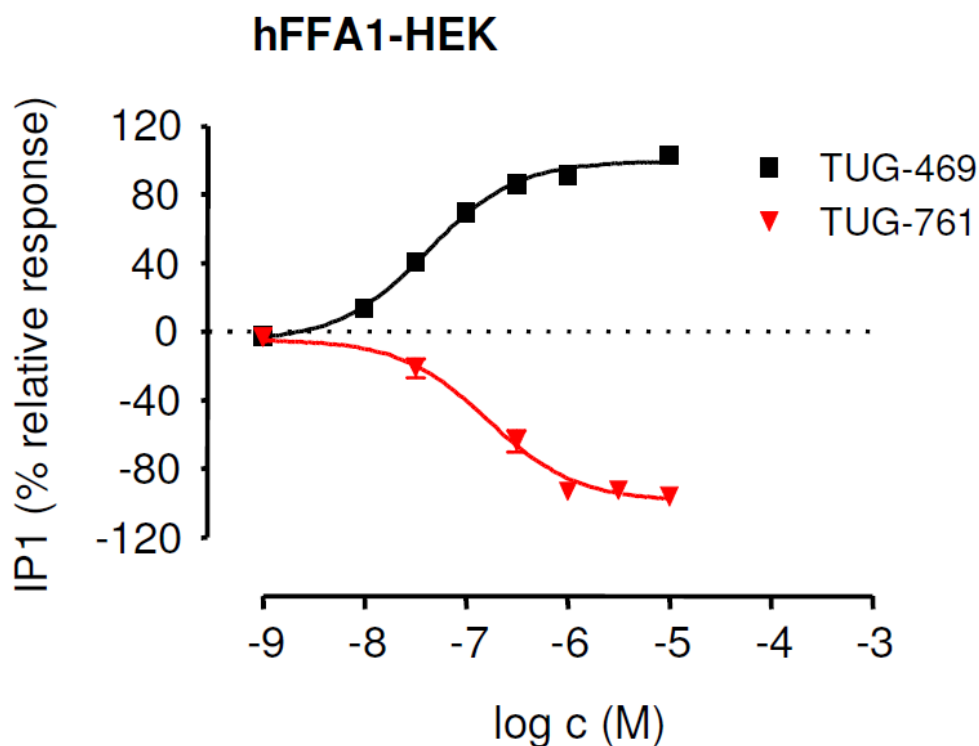
SUPPLEMENTARY DATA

Supplementary Figure 1. Concentration-dependent effects of TUG-469 and TUG-761 in hFFAR1 expressing HEK cells. HEK293 expressing the human FFAR1 receptor were stimulated with the indicated concentrations of FFAR1-agonist TUG-469 and FFAR1-antagonist TUG-761 and accumulation of IP1 (inositol-1-phosphate) as measure of G-protein coupled PLC activity was recorded (for method see ref. S1). Untransfected HEK cells and HEK cells transfected with FFAR2 or FFAR3 respond neither to TUG-469 nor to TUG761 (data not shown). S1. Schmidt J, Smith NJ, Christiansen E, et al. Selective orthosteric free fatty acid receptor 2 (FFA2) agonists: Identification of the structural and chemical requirements for selective activation of FFA2 versus FFA3. *J Biol Chem.* 2011;286:10628-40.

A

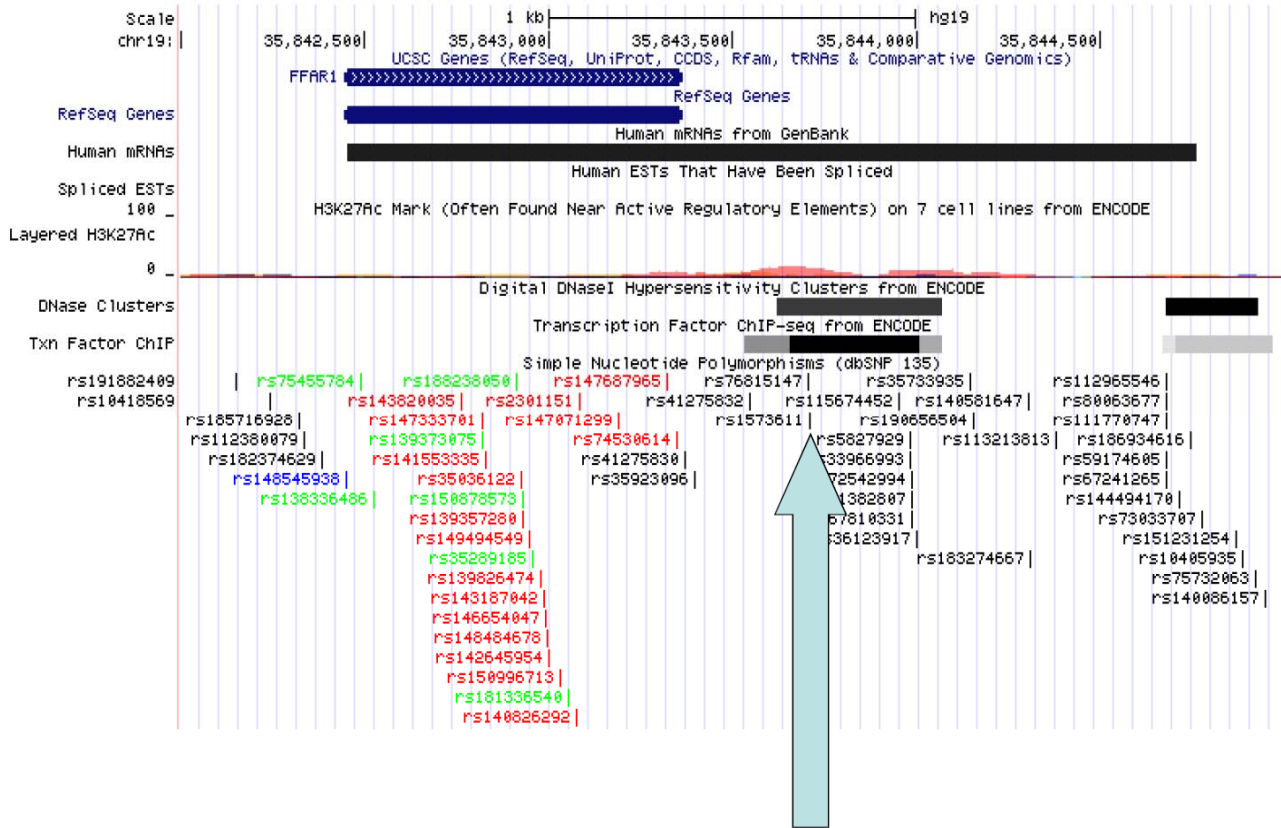


B



SUPPLEMENTARY DATA

Supplementary Figure 2. Localization of the SNP rs1573611 in the *FFAR1* locus as downloaded from <http://genome.ucsc.edu/index.html>. ChIP-Seq analyses of transcription-factor binding and digital DNase hypersensitivity cluster data indicate that rs1573611 is situated amidst an important cis-regulatory region (Encode project consortium, A user's guide to the encyclopedia of DNA elements (ENCODE). PLoS Biol 2011; 9(4):e1001046).



SUPPLEMENTARY DATA

Supplementary Figure 3. FFAR1 protects against palmitate-induced beta-cell death. WT (A) and FFAR1-KO (B) mouse islet cells were incubated with test substances as indicated and described under Research Design and Methods. Results are expressed as means \pm SEM of n = 3 - 5 independent experiments. * (p<0.05) indicates significance to control culture condition in the presence of 1.2% FCS; § (p<0.05) indicates significance to palmitate.

