

**Supplementary Table 3.** The differentially expressed genes of RNA sequencing data from *Asgr1*<sup>-/-</sup> and WT mice

**Supplementary Table 4.** The differentially expressed genes of RNA sequencing data from *ASGR1*<sup>-/-</sup> HepG2 and HepG2 cells

**Supplementary Table 5.** Specific DEGs in the PI3K-AKT pathway and the biological process that responds to insulin in *ASGR1*<sup>-/-</sup> HepG2 cells

Gene	Gene ID	RNA-seq log2 fold change	P value
FGF17	8822	-1.012102982	5.41E-06
KITLG	4254	-1.603133227	7.33E-12
PPP2R2C	5522	-1.037661488	1.94E-06
GNG4	2786	-1.118335092	2.42E-09
EPO	2056	-1.341372146	5.30E-08
LAMC3	10319	1.279690928	8.86E-19
DDIT4	54541	-1.337824251	1.07E-25
PCK1	5105	-1.471646069	4.22E-09
EGFR	1956	-2.086944326	1.11E-40
IGFBP1	3484	-1.093501811	4.36E-13
EGR1	1958	-1.036839144	3.06E-05
ERRF1	54206	-1.093586937	6.20E-15
RAB31	11031	1.572612137	1.33E-14
UCP2	7351	1.079475079	7.67E-20
ADM	133	-1.24635261	1.19E-12

DEG, differentially expressed gene; PI3K, phosphoinositide 3-kinase; AKT, protein kinase B; *ASGR1*, asialoglycoprotein receptor 1.