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Hepatic nonvesicular cholesterol transport is critical for systemic lipid homeostasis

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Supplementary Table 1. Antibodies used in this study.

Protein	Source	Catalog ID	Dilution
HA-tag (C29F4)	Cell Signaling Technology	3724S	1:1000
His-Tag (27E8)	Cell Signaling Technology	2366S	1:1000
HMGCR	Millipore-Sigma	ABS229	1:1000
FDPS	Abcam	ab153805	1:1000
LDLR	Cayman Chemical	10007665	1:1000
SQLE	Millipore-Sigma	AV42101	1:1000
CALNEXIN	Abcam	ab10286	1:1000
APOB	Millipore-Sigma	AB742	1:5000
ApoA1	Meridian	K23500R	1:2000
SRB1	Abcam	ab217318	1:1000
ABCA1	Novus Biologicals	NB-400-105	1:1000
Actin	Millipore-Sigma	A5316	1:10 000
Pan-Cadherin	Santa Cruz	sc-59876	1:1000
ATGL	Cell Signaling Technology	2138S	1:1000
SREBP-2	Millipore-Sigma	MABS1988MI	1:1000
Lamin A/C	Santa Cruz	sc-6215	1:1000
SMPD3	Abcam	ab85017	1:1000
E-CADHERIN	BD Bioscience	610181	1:1000
Goat Anti-Mouse IgG H&L (Alexa Fluor® 555)	Invitrogen	A21424	1:1000
Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)	Invitrogen	A11034	1:1000
Goat Anti-Mouse IgG H&L (Alexa Fluor® 488)	Invitrogen	A11001	1:1000
Goat Anti-Rabbit IgG HRP	Invitrogen	656120	1: 5000
Goat Anti-Mouse IgG HRP	Jackson Immuno Research Labs	NC9731556	1: 5000

Supplementary Table 2. Oligonucleotides used in this study.

qPCR primers	Forward	Reverse
Gramd1a Aster-A	CAGCAGATGCTCTTCTCGGA	TCTGAGGATACACGAAGCCG
Gramd1b Aster-B	TCCCAATGCCATCCAAGTC	ACAAAGTGCCAGAGCTCC
Gramd1c Aster-C	CCGTGTCTTTCACATCAGTGC	ACTTCCCAGTTAGCGGGTTG
Srebf2	ACCTAGACCTCGCCAAAGGT	GCACGGATAAGCAGGTTTGT
Hmgcr	CTTGTGGAATGCCTTGTGATT	AGCCGAAGCAGCACATGAT
Hmgcs	GCC GTG AAC TGG GTC GAA	GCA TAT ATA GCA ATG TCT CCT
Ldlr	AGGCTGTGGGCTCCATAGG	TGC GGT CCA GGG TCA TCT

Sqle	GCCTCTCAGAATGGTCGTCT	CGCATGTCCCAGAATAAGGA
Insig1	CACGCCAGTGCCAAATTAGA	CCCAAGGCCGCTTCG
Srebf1c	GGAGCCATGGATTGCACATT	GGCCCGGGAAGTCACTGT
Abca1	GGTTTGGAGATGGTTATACAATAGTTGT	TTCCCGGAAACGCAAGTC
Abcg1	AGGTCTCAGCCTTCTAAAGTTCCTC	TCTCTCGAAGTGAATGAAATTTATCG
Scarb1	TCCTGGGAGCCCTTTTTACT	GCCCATCATCTGCCAACT
Besp	CCTTGGTAGAGAAGAGGCGACA	ATGGCTACCCTTTGCTTCTGCC
Mafg	TCAAGCGGGTGACACAGAAGGA	CCAGCTTCATGCTGGCATTCTC
Cyp7a1	CACCATTCCTGCAACCTTCTGG	ATGGCATTCCCTCCAGAGCTGA
Smpd1	AACTCTGAGCCGACCACTAGCT	GTCCAGGACCACATGAGAGCTT
Smpd2	TGCCTGCTGAAAGAGTGGACAG	TGGCTGACGTAGCAGTTCTTGG
Smpd3	TCAACAGCGGTCTCTTCTTCGC	CTTTGGTCCTGAGGTGTGCTTC
Smpd4	AGCCTCGCTTTGTCCAGCAGAA	TGCAGGTAGCTCAGCCACATCT

Genotyping primers	**Forward**	**Reverse**
Aster-A flox/flox	AAGACATCATAGTTTCGGGGAAGC	CGTCTAGCTCTGAACCTCAAGAC
Aster-B flox/flox	AAAGTGTGTTGGTTTAACTCTTGGG	GTTTACAGTCCTAGCCCAAACATC
Aster-C flox/flox	AATGCTGTTTGAGTTGCTGA	GACAAGCAAATATGCACGTGTT
3xHA-Aster-C	attaattgccgccagaggacgc	taacactccgtcgcctagccag
mFxr KO	gctctaaggagagtcacttgtgca	gcatgctctgttcataaacgccat
Cre	GCGGTCTGGCAGTAAAAACTATC	GTGAAACAGCATTGCTGTCACTT
Cre internal control	CTAGGCCACAGAATTGAAAGATCT	GTAGGTGGAAATTCTAGCATCATCC

Crispr 3XHA Aster-C knock-in ssDNA oligo	
3XHA sequence flanked by ~50 bp homology arms	TATCCATACGATGTTCCTGACTATGCGGGCTATCCCTATGACGTCCCGGACTATGCAGGATCG TATCCTTATGACGTTCCAGATTACGCT